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EMBASSY OF CANADA

MARKET STUDY OF THE SOFTWARE INDUSTRY IN CHILE
FINAL REPORT

OCTOBER 21, 1991

Langton Clarke

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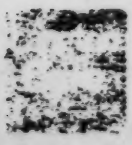

OCTOBER 21, 1991

THE SOFTWARE MARKET IN CHILE

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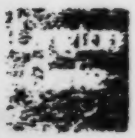


Chapter I: INTRODUCTION AND PROJECT OBJECTIVES

1.1. Introduction and Objectives

The present report contains the results obtained in the market study of the software industry in Chile, conducted for the Canadian Embassy.

The main general objective of this research is to provide a diagnosis of the characteristics and participants of the market, and the present and potential business opportunities for Canadian firms in the various user target segments.

In addition, a listing of participating firms and professional associations is provided, indicating the name, address and phone number, as well as the name and position of an executive to be contacted in case of interest.

With these purposes in mind, we have structured our final report into five chapters each one directed at one specific subject related to the variables relevant to the study.

This first chapter describes the Final Report's contents, structure and methodology.

Chapter two contains a detailed industry supply analysis. The various sections of this chapter cover an overview of the industry and its characteristics, and the identification of the relevant competitors in terms of suppliers in Chile. A directory of the industry participants is provided in this chapter, with an identification profile per company.

The third chapter provides a general description of software categories. The framework of reference for the demand variables is defined, and the results of the field research conducted are analyzed and interpreted. The existing legislation is analyzed as well as the proposed government policies and regulations for the software market.

Chapter four covers the evolution of software imports. The information is presented for participating suppliers and their brands indicating market share in terms of dollars and units.

The projected growth of software imports is estimated for the next two years. Also, software exports are described.

The last chapter of this report provides a summary of the general conclusions of this study and identifies the business opportunities available in this industry for Canadian companies.

1.2. Research Methodology

There is no better way to measure customer preferences and to determine needs and forecast sales (of any service or product) than to ask the people who are responsible for purchasing decisions. Since the purpose of this market study is to determine business opportunities, we have used this approach and while the premise sounds basic enough, in the sprawling and intrincate world of computer hardware and software, identifying the relevant user segments, as well as reaching the key decision makers for these softwares, has not been easy for our research.

We therefore used a combined approach of desk research, analysis from secondary information sources, and an exploratory survey of experts in the subject. In a second stage of our study we identified the universe of users, and selected and interviewed a group of organizations that represent the following sectors:

- Industrial goods
- Government and education
- Financial services
- Energy and telecommunications
- Other services (health services, hotels)

- Software companies
- Professional associations
- Environment-related organizations
- Other relevant organizations

1.3. Survey Demographics

The 10 industry sectors selected as respondents correspond to important categories of business and professional activity which are currently using computer systems and software for their operation and production. Within each sector 3 to 5 organizations were selected on the basis of their relative importance within the industry. The organizations represented among the respondents include many of the largest firms in the industry.

Chapter 2. Industry Supply Analysis

2.1. Description of Market Participants, and Market Size.

2.1.1. Total Market Size:

According to the data gathered from secondary sources, in interviews to industry experts,users,distributors and the like, the computer industry in Chile in 1990, had sales in U.S. dollars that fluctuated between US$ 250 and US$ 300 million dollars.

This amount can be broken down as follows:

. Software which is made and sold in Chile.	US$ 20 million
. Imported software	US$ 60 to 80 million
. Hardware	US$180 million
. Computer services and consulting	--------

These numbers are also backed up by the fact that the market concentrates about half its sales in two companies: IBM and Sonda. (See definition in next pages).

IBM total sales in 1990 were approximately US$65 to 70 million dollars; and Sonda declared sales of US$55 million for the year.

Together they add up to US$125 millions which is half of the total market value.

It is interesting to note that according to industry sources, about 4.800 people work in the computer sector.

2.1.2. Categories of Software Industry participants:

Participants can be grouped according to various criteria:

(a) Size, in terms of sales.
(b) Products or services offered
(c) Property or/and distributor relationships.

(a) Size, in terms of sales:

The following table shows the main suppliers grouped by approximate 1990 sales figures in dollars.

Computer Industry Suppliers , according to estimated Sales

1990

Company Name	Estimated Sales
A. Sales over US$50 millions a year	
- IBM	US$65 to 70
- SONDA	US$55
B. Sales between US$15 and US$20 millions	
- SISTECO	
- SYNAPSIS	
- COASIN	
- UNYSIS	
- NCR	
- COMPUTERLAND	
- CIENTEC (ACER PC's)	US$20 to 30
C. Sales between US$5 to US$10 millions	

All other companies,including Apple, Olivetti,Epson, Wang and others.

(b) Products or Services Offered:

In the enclosed directory we have included a detailed listing of companies according to products and services offered.

- The classification used includes:

(b.1) Hardware

(b.2) Basic Software: Almost all of it is imported. It includes all the operating systems, compilers,etc. which must be compatible with the hardware.

(b.3) Applications Software

(b.4) Custom Design of Software or Consulting Services

(b.5) Systems Integration

(c) Property Relationships:

(c.1) SONDA (Andrés Navarro Group, Inversiones Pacífico):

	Ownership
- Sonda	100 %
- Binaria	30 %
- Logica	30 %
- Orden	30 % (NCR holds another 30%)
- Microcomputadores	----
- Coasin	*
- ServiBureau	----

- Sonda: It sells DIGITAL, software, computer solutions, conducts computer maintenance, provides technical assistance and offers integrated solutions. It is present in almost all sectors of the chilean economy. Apparently, VAX

may have purchased a participation in Sonda.

- Binaria: It services IBM equipment and represents in Chile the CYNCOM system.

- Logica: Represent MAI BASIC 4 and provides service for IBM equipment.

- Orden: Software development. It developed a 4th Generation software development tool called DUNGA or CASE AP,on which it produces a variety of applications.

- Microcomputadores: Represent Lotus, Ashton Tate, and others.

* Coasin is part of an argentinian organization which works as joint venture with local partners in Argentina, Uruguay, Colombia and other latin american countries. Andrés Navarro as a private entity participates in the company.

(c.2) Quinta Generacion Group:

President: Roberto Baeza

- Computerland
- Microcare
- Softland
- Microsoft Chile
- QSoft
- Quinta Generacion Educacion

(c.3) IBM: owns 30 % of Sisteco, which in turn owns Terabyte.

It has a network of distributors.

(c.4) UNYSIS: distributed by Magenta and Synapsis.

Synapsis: Owned by Enersis and Unysis. It is a joint venture between UNYSIS and the Chilectra Holding (Enersis) a local electric power company. It is part of the Jose Piñera economic group.

(c.5) Optimisa: Represents Unysis,Oracle and Stratus.

(c.6) Ingenac. It owns INCOM, which represents ESRI in Chile.

It is part of the Francisco Javier Errázuriz economic group.

(c.7) SIGMA: Owned by the Anacleto Angelini economic group. It services the largest industrial fisheries in the country, which are also part of the group.

2.2. Directory of Industry Participants

The present Directory contains the most important companies of the industry, that are Software producers, developers, and Software dealers.

On the other hand there are some Companies that work only with Hardware, Peripherals, and other items related to the business.

Some of the companies that are included in one or more sections of the computing business.

Another part of this work actually lists IBM dealers specified in detail.

CODES

SW	:	Software
HW	:	Hardware
SVCS	:	Services
Perif	:	Peripherals
Comput	:	General computer business

DIRECTORY

1 Company : A & H COMPUTACION LTDA.
Address : Lautaro 737
Phone : 2351178, 2259096
FAX :

Executives : José Marcelo Aguayo Gerente general

Codes : COMPUT.

2 Company : ALFA INGENIERIA LTDA
Address : Antonio Varas 2108
Phone : 465573
FAX : (562)465573

Executives : Guillermo Gonzalez H. Gerente

Codes : SW, SVCS.

3 Company : ALEF DATA LTDA.
Address : Bandera 236 Piso 5 of.19-A.
Phone : 6985011
FAX : (562)6972037

Executives : Rafael Alvo C. Gerente General

Codes : SW

4 Company : ARCADING
Address : Miguel Claro 399
Phone : 496123, 43558
FAX : (562)496123

Codes : HW, SVCS

5 Company : ASSIN LTDA.
Address : Vicuña Mackenna 1491
Phone : 5550930, 5555372.
FAX :

Executives : LEONIDAS TAMBLAY P. Gerente General

Codes : SVCS

6 Company : AUPRIN S.A.
Address : CAPULLO 2240

Phone : 494957, 2514129
FAX : (562)2319108

Codes : SW

7 Company : AUTYS LTDA
Address : Providencia 1244 Of 23
Phone : 491945
FAX : (562)491945

Executives : Eduardo Barceló Gerente General
Larry Watson Gerente Técnico

Codes : SW

8 Company : AEG OLYMPIA CHILE S.A.
Address : Rodrigo de Araya 1045
Phone : 2381520
FAX : (562)2381876

Executives : Pedro Reyes Gerente Div Informát

Codes : HW, SW.

9 Company : AISOFT S.A.
Address : Los Conquistadores 1700 P.17-B
Phone : 2317015
FAX : (562)2332565

Executives : Jaime Nuñez V

Codes : SW

10 Company : ASC S.A.
Address : Austria 2041
Phone : 2235946
FAX : (562)2332565

Executives : Ricardo Bortzutzky Gerente General.

Codes : SW, HW, SVCS.

11 Company : AXON S.A
Address : Apoquindo 3161 of 91
Phone : 2314019
FAX : (562)2314019

Executives : Manuel Figueroa B. Gerente General

Codes : SVCS, SW.

12 Company : Arrayán Editores S.A.
Address : Bernarda Morín 435
Phone : 2744769
FAX : (562)395493

Executives : Víctor Pérez V. Gerente de Ventas.

Codes : SW.

13 Company : ARS INNOVANDI S.A.
Address : Providencia 2184 Piso 3
Phone : 2318928
FAX : (562)2319756

Executives : Pablo Fernandez Encargado de Soporte

Codes : SW.

14 Company : ASESEC LTDA
Address : Providencia 1244 piso 2 of A
Phone : 2253450, 2351140
FAX : (562)2351140

Executives : Luis Castro V. Socio Ejecutivo

Codes : HW, SW, SVCS.

15 Company : ASICOM COMERCIAL S.A.
Address : Mar del Plata 2147
Phone : 2745090
FAX : (562)2742963

Executives : Aldo Moyano Gerente general.
Eduardo Gallardo Gerente de Ventas

Codes : HW, SW, SVCS.

16 Company : ASICOM INTERNACIONAL S.A.
Address : Mar del Plata 2147
Phone : 2742875
FAX : (562)2742963

Executives : Christian Sepúlveda Product Manager.
Alvaro Lavin C Gerente de Admin .

Codes : SVCS

17 Company : BIGSA S.A.
Address : Francisco de Noguera 41 Piso 4
Phone : 2320323
FAX : (562)6969368

Executives : Luis Pino Pantoja Subgerente Comercial

Codes : SW

18 Company : BINARIA S.A.
Address : Teatinos 350
Phone : 6962133
FAX : (562)2232789

Executives : Sergio García Molina Gerente Comercial

Codes : HW, SW.

19 Company : BRAIN S.A.
Address : Ramón Carnicer 43
Phone : 2221182, 344180
FAX : (562)344180

Executives : Gilda Dondero C. Gerente

Codes : HW, SW.

20 Company : BROWSE LTDA.
Address : Huelén 85 ofic 3
Phone : 460921
FAX : (562)2352459

Executives : Manuel Donoso O. Gerente Comercial

Codes : SW, SVCS.

21 Company : BYSUPPORT
Address : Rafael Cañas 50-F
Phone : 2231532
FAX : (562)2518703

Executives : J. de Dios Fernandez Gerente General

Codes : HW, SW.

22 Company : Centro Integrador de Datos
Address : Irarrázabal 5119
Phone : 2275481
FAX :

Executives : Eduardo Baeza Gerente

Codes : SW

22 Company : CENTRO-SOFT
Address : Marin 37 of 102
Phone : 2222631
FAX :

Executives : Jaime Leonart M. Gerente

Codes : HW, SW.

23 Company : CIA CHILENA DE SOFTWARE S.A
Address : Huérfanos 1373 of 1306
Phone : 6972320
FAX : (562)6980847

Executives : Guillermo Danker B. Gerente General

Codes : SVCS, SW.

24 Company : CIENTEC S.A.
Address : Antonio Varas 754
Phone : 2743508
FAX : (562)2232789

Executives : Hermann Barentin N. Gerente General
Paulette Ivovich O. Asistente de Mktg.

Codes : Acer, Sun Microsystems, HW, SW, Perif.

25 Company : CID
Address : Irarrázabal 5119
Phone : 2275481
FAX :

Executives : Eduardo Baeza H. Gerente

Codes : SW

26 Company : CIGAR LTDA.
Address : Carlos Larrain Claro 1981 of.3
Phone : 2743053,2254827.
FAX :

Codes : SVCS

27 Company : CIISA
Address : Pedro de Valdivia 2103
Phone : 2232616,2047677
FAX : (562)2231066,2047245

Executives : Waldo del Moral Jefe de Admin. y Fza

Codes : SVCS,SW.

28 Company : CIM-COMTRADE
Address : General Flores 197
Phone : 22535187
FAX : (562)2351131

Executives : Felipe Zelada M. Socio Director

Codes : HW,SVCS.

29 Company : CITEX S.A.
Address : Los Urbinas 87 of. 30
Phone : 2334499
FAX : (562)2320176

Executives : Eduardo Garcia L. Gerente Comercial

Codes : HW,SW.

30 Company : CMS ENHACEMENTS INC
Address : Portugal 300 Piso 2
Phone : 344218, 342893
FAX : (562)343589

Executives : Rafael del Campo M. Gerente General

Codes : HW

31 Company : CADE CONSULTORES S.A.
Address : Dublé Almeyda 2544
Phone : 2742226, 2746040
FAX : (562) 2745315

Executives : Lautaro Carcamo S. Director
Sergio Pinedo F. Director

Codes : SW, Consult.

32 Company : Coasin Chile Ltda.
Address : Holanda 1292
Phone : 2250463
FAX : (562)497430

Executives : Aurelio Montenegro Gerente Comercial

Codes : HW, PERIf, SW

33 Company : COMDATA LTDA.
Address : Providencia 2653 Loc.40
Phone : 2321791
FAX :

Codes : SW

34 Company : COMICROM
Address : Mac Iver 125 Pisos 4 y 9
Phone : 394747
FAX : (562)330923

Executives : Henry Manzano Z. Gerente General
Gabriel Lopez V. Mktg. Support.

Codes : SVCS.

35 Company : COMGRAP
Address : Providencia 2370 of 52
Phone : 2323021
FAX : (562)375426

Executives : Gabriela Ward V. Gerente General

Codes : HW, SW, PERIF.

36 Company : CYC SISTEMAS COMPUTACIONALES S.A.
Address : Monjitas 626 of 74
Phone : 394861, 396726
FAX : (562)396726

Executives : Federico Carrizo T. Gerente Comercial

Codes : HW, SW.

37 Company : COMPUTERAGE LTDA.
Address : Suiza 2043
Phone : 2047077
FAX : (562)2747707

Executives : J.Pablo Spoerer. Gerente general.
Jorge Spoerer Gerente de Ventas
Mauricio Valderrama Subgte. de Ventas

Codes : SW, HW, SVCS.

38 Company : COMPUTACION INTEGRAL S.A.
Address : Carlos Antúnez 2415
Phone : 2330248
FAX : (562)2320297

Codes : Comput.

39 Company : COMPUTACIONES CORAL LTDA.
Address : Bilbao 1414
Phone : 2742764, 40420, 2740570.
FAX :

Executives : Carlos Quintana Ch. Socio.

Codes : HW

40 Company : COMPUTER BUSINESS LTDA.
Address : Estado 215 of 214
Phone : 6321576
FAX :

Codes : Comput.

41 Company : COMPUVISION S.A.
Address : Compañia 1357 Piso 7
Phone : 6962133, 6998817
FAX : (562)6969386

Codes : HW

42 Company : COMPUTERLAND
Address : Av Sta.Maria 2560
Phone : 2316835
FAX : (562)2316835

Executives : Lily Corvalan Gerente General

Codes : HW, SW.

43 Company : CONDE S.A.
Address : Huerfanos 1160 of 1103
Phone : 6967043
FAX : (562)6991125

Executives : Diana Hielbig Gerente de Ventas

Codes : HW,SW,SVCS.

44 Company : CONTAC INGENIEROS LTDA.
Address : Fco. Bilbao 2921
Phone : 2232677
FAX : (562)2255706

Executives : Luis Yacher Schatz Director

Codes : SW

45 Company : CONTAGIO COMPUTACION
Address : El Quichua 1240
Phone : 2060984
FAX : (562)2317403

Executives : Edward Roe L. Gerente

Codes : SW.

46 Company : CRONO COMPUTACION LTDA.
Address : Av Bulnes 107 of 54
Phone : 6981841
FAX :

Codes : Comput.

47 Company : DATA GENERAL CHILE S.A.
Address : Av 11 de Sept.2353 piso 3
Phone : 2314631
FAX : (562)2333980

Executives : Rodolfo Lütges D. Gerente General
Marcelo Pardo B. Sub Gte. de Mktg.

Codes : HW, SW.

48 Company : DATA CHILE LTDA.
Address : Av Lib. B.O'Higgins 155 of 31
Phone : 381626, 397079.
FAX :

Codes : SVCS.

49 Company : DATACORP LTDA.
Address : San Crescente 240
Phone : 2315425, 2324315.
FAX : (562)2327567

Executives : Alejandro Artigas M. Gerente Comercial

Codes : HW, SW

50 Company : DATALAND S.A.
Address : 4 Norte 337, Viña del Mar.
Phone : 688081, 881863.
FAX : (5632)881863

Executives : Vinicio Vega Johnson. Gerente General.

Codes : HW, SW, SVCS.

51 Company : DATAMERICA S.A.
Address : Av. Pedro de Valdivia 1642
Phone : 2049464, 408503, 2049460.
FAX : (5632)2049469

Executives : Patricio Contreras Soporte de Marketing

Codes : SVCS.

52 Company : DATASOFT S.A.
Address : Polonia 285-a.
Phone : 2467443
FAX : (562)2080591

Executives : Marcelo Escudero H. Gerente General

Codes : SVCS.

53 Company : DIGISA S.A.
Address : Las Hortensias 2371
Phone : 2310773
FAX :

Executives : Julio Sillard A. Gerente Operaciones

Codes : Comput.

54 Company : DECEL LTDA.
Address : Av 11 de Sept 1160 of 151
Phone : 2322009
FAX :

Codes : Comput.

55 Company : DELCO COMPUTACION
Address : Eyzaguirre 122 of 144
Phone : 6953231
FAX :

Codes : Comput.

56 Company : DEMCO LTDA.
Address : Fco. Bilbao 241
Phone : 342462, 341855
FAX :

Executives : Cristián Fernandez C. Gerente General

Codes : HW

57 Company : DESICOM S.A.
Address : Las Hortensias 2314
Phone : 2310675
FAX :

Codes : HW, SW.

58 Company : DICEC LTDA
Address : Triana 849
Phone : 2748883
FAX : (562)6993316

Executives : Juan Luis Salazar Gerente general

Codes : HW, SW, SVCS.

59 Company : DISOFT LTDA
Address : Tucapel 0293
Phone : 2742177
FAX :

Executives : Carlos P. Prieto M. Socio Gerente

Codes : SW, SVCS.

60 Company : DPC
Address : El Gobernador 017
Phone : 2517218
FAX : (562)2517199

Codes : Comput.

61 Company : DTS LTDA.
Address : Rosas 1444
Phone : 6970991
FAX : (562)6993316

Executives : Jaime Pacheco Matte Gerente Comercial

Codes : SW SVCS

62 Company : EDAPI LTDA
Address : Los Leones 2215
Phone : 2516568
FAX : (562)2513835

Executives : Osvaldo Retamal B. Gerente de Mktg.

Codes : SVCS.

63 Company : EMPRODAT
Address : Diagonal Oriente 5621-A
Phone : 2276771
FAX :

Executives : Robinson Cabrera S. Gerente

Codes : HW, SW.

64 Company : ENLACE COMPUTACION.
Address : Barros Errázuriz 1902
Phone : 2258504
FAX :

Executives : J.Pablo Stevenson P. Gerente de Finanzas

Codes : SW.

65 Company : EPSON CHILE S.A.
Address : Av. Andrés Bello 2287
Phone : 2324661
FAX : (562)2315640

Executives : Drago Eterovic Gerente General

Codes : HW.

66 Company : ESI LTDA.
Address : Agustinas 641 of 42
Phone : 393364
FAX :

Executives : Rodolfo Orellana M. Gerente General

Codes : SVCS, SW.

67 Company : EXCELSYS S.A.
Address : Guanabara 1172
Phone : 2122151
FAX : (562)2115314

Executives : Christian Paccot Gerente

Codes : SW, SVCS.

68 Company : FINALDATA LTDA.
Address : Rosal 361
Phone : 391237, 393667
FAX :

Executives : Italo Riderelli F. Gerente General
Miguel A.Soza P. Gerente Técnico

Codes : HW, SW, SVCS.

69 Company : FLEX-TECH CHILE
Address : Av Fco. Bilbao 2809
Phone : 460470, 494664
FAX : (562)494664

Executives : Juan Carlos Parra P. Gerente de Ventas

Codes : HW, SW.

70 Company : GESTION S.A.
Address : Casilla 319, correo 3
Phone : 345886,345715
FAX : (562)2229396

Executives : Nicolás Gabor Director
Rodrigo Carvallo J. Gerente

Codes : SW.

71 Company : GENSOFT S.A.
Address : Suarez Mujica 280
Phone : 493659,,2399210
FAX : (562)2257445

Executives : Gino Castillo P. Gerente

Codes : HW,SW,SVCS.

72 Company : GEOCOM
Address : Av Slavador 1105
Phone : 2749325,2742559
FAX : (562)490476

Codes : SW, SVCS.

73 Company : GENSYS LTDA
Address : Suarez Mujica 280
Phone : 493659
FAX : (562) 2387467

Executives : Cesar P. Rodriguez G. Socio Gerente

Codes : SW, SVCS.

74 Company : HEWLETT PACKARD.
Address : E.Concha y Toro 65
Phone : 6969665, 6960031
FAX : 856296969665

Codes : HW, SW, SVCS.

75 Company : HOLMES Y CIA.
Address : Matías Cousiño 64 of 708
Phone : 6986696, 2425174.
FAX : (562)6981474

Codes : SW.

76 Company : HOST CHILE S.A.
Address : Barcelona 2086
Phone : 2516522, 2331844
FAX : (562)2332280

Executives : Arturo Ríos M. Gerente Comercial

Codes : SW, HW.

77 Company : IBM CHILE S.A.
Address : Providencia 655
Phone : 334400
FAX : (562)396999

Executives : Luis A. Barbosa Gerente General

Codes : HW, SW.

78 Company : ICSA
Address : Av Bustamante 24 Of.A
Phone : 2231125
FAX : (562)2221875

Codes : Comput

79 Company : IMEX ESTADO LTDA.
Address : San Diego 1601
Phone : 5559468
FAX : (562)5517212

Executives : Jorge Aguirre G. Gerente Técnico

Codes : HW, SW.

80 Company : IMPEX UNIVERSAL SANTIAGO
Address : Encomenderos 106-2A
Phone : 2334180
FAX : (562)2086061

Executives : Gaby Wolf K Gerente

Codes : HW, SVCS.

81 Company : IMAGEN-CONSORCIO INDEPRO METACONTROL
Address : Santa Magdalena10 of 22
Phone : 2326124
FAX : (562)2318946

Executives : Pablo Bañados M. Gerente Tecnico.

Codes : SW.

82 Company : INEX S.A
Address : Valentin Letelier 20 of 201
Phone : 6980029
FAX : (562)6964040

Executives : Mario Herane Director-Gerente

Codes : HW, SW.

83 Company : INFORMAT S.A
Address : Fco.Bilbao 3020
Phone : 2514145
FAX : (562)2252448

Executives : Hernan Contreras S. Gerente Comercial
Francisco Lagos Jefe de Distribución

Codes : SW, SVCS.

84 Company : INFORMIX CHILE S.A.
Address : Carlos Antúnez 1954
Phone : 462017
FAX : (562)2516707

Executives : Ivan Orellana P. Gerente Operaciones
Benita Izquierdo Product Marketing.

Codes : SW.

85 Company : INFOCHILE
Address : Arturo Ureta 1030
Phone : 482715, 2284272.
FAX : (562)2233664

Executives : Daniel Shapira E. Gerente General
Marcelo Shapira E. Gerente Tecnico

Codes : HW, SW.

86 Company : INFOLAND
Address : Apoquindo 3291
Phone : 2390656, 2390623.
FAX :

Executives : Cristian Sarras Gerente

Codes : HW, SW.

87 Company : INFORNA S.A.
Address : Pedro de Valdivia 0119
Phone : 2512512
FAX : (562)6994594

Executives : Rafael C. Manzur S. Gerente General

Codes : HW.

88 Company : INGENIERIA DE SOFTWARE LTDA.
Address : Andacollo 2095
Phone : 09-2231947, 2255791
FAX : (562)2252448

Executives : Francisco Lagos Jefe de Distribución

Codes : HW, SW.

89 Company : INGENAC S.A.
Address : Av Pedro de Valdivia 800
Phone : 2339935
FAX : (562)2341107

Executives : David Daer Gerente Técnico

Codes : HW, SW.

90 Company : INGEVAL S.A.
Address : Hernando de Aguirre 11 of H.
Phone : 2321242, 2316390
FAX : (562)2321242, 2316390

Executives : Andrés del Valle Gerente Operaciones

Codes : SW.

91 Company : INTERVIDEO LTDA.
Address : Antonio Varas 637
Phone : 2741146
FAX : (562)2255459

Executives : Carlos Contreras Q. Gerente General.
Stuart Allsop Gerente de Productos

Codes : SW,SVCS.

92 Company : JMO INTERNACINAL LTDA
Address : Melchor Concha y Toro 15
Phone : 375275
FAX : (562)775258, 2283863.

Executives : Jean Marie Menager Socio Gerente
Ana Maria Urrutia N. Socio Gerente

Codes : SW

93 Company : KODAK CHILENA S.A.F.
Address : Alonso Ovalle 1180
Phone : 6982571
FAX : (562)6970310

Executives : Ricardo Gebauer Gerente de Marketing

Codes : HW, SW.

94 Company : KREO
Address : Ismael Valdes Vergara 360 of 62.
Phone : 381038, 382697
FAX : (562)381038

Executives : Izac Zycer B. Gerente General

Codes : SW.

95 Company : LAST CALL COMPUTACION S.A.
Address : Santo Domingo 588 pis 1
Phone : 398685
FAX : (562)6993356

Executives : Patricio Galvez M . Gerente General

Codes : SW, SVCS.

96 Company : LATINDATA S.A.
Address : Eliodoro Yañez 2596
Phone : 2310144, 2310743
FAX : (562)22310585

Executives : J. Antonio Tamés E. Gerente

Codes : HW, SW

97 Company : LOGICA S.A.
Address : Eleodoro Yañez 1215
Phone : 2233828
FAX : (562)2237835

Executives : Alberto Ulriksen J. Director de Marketin

Codes : HW, SW.

98 Company : LOGISCOMP
Address : Av. Sur 3657 Edificio 19 of 319
Phone : 6816438
FAX : (562)6816430

Executives : Hugo Ortiz V. Gerente General

Codes : HW, SW.

99 Company : MAGENTA COMPUTACION S.A.
Address : Callao 3332
Phone : 2467777
FAX : (562)2322140

Executives : Gerardo Brunner Gte. de Admin y Fin.

Codes : HW, SW.

100 Company : MATRICIAL
Address : La Unión 3000
Phone : 354066
FAX : (562)779516

Executives : Angel Tamayo Gte. de Desarrollo

Codes : HW, SW.

101 Company : METASOFT LTDA.
Address : Av. Libertador B. O'higgins 142 of 236
Phone : 6322655
FAX : (562)6322655

Executives : Mauro Cavalcante Gerente de Sistemas

Codes : SW.

102 Company : METRODATA CHILE
Address : Luis Thayer Ojeda 1234
Phone : 2310648
FAX : (562)2320975

Executives : Mariano Gallego J. Gerente General

Codes : HW, SW.

103 Company : MICROBYTE
Address : Passy 506
Phone : 2222699
FAX : (562)2222699

Executives : Lily Corvalán Gerente Comercial.

Codes : HW,SW.

104 Company : MICROCARE LTDA.
Address : Pedro de Valdivia 424
Phone : 2341005
FAX : (562)2339888

Executives : Alejandro Manríquez G Gerente General

Codes : HW, SW, SVCS.

105 Company : MICROGEO LTDA
Address : Valenzuela Castillo 1608
Phone : 2251410
FAX : (562)2234987

Executives : Robert Richter Stein Gerente Comercial

Codes : SW, PERIF.

106 Company : MICROSOFT
Address : Calderón 125
Phone : 2250755
FAX : (562)44042

Executives : Arturo Alba Presidente Ejecutivo

Codes : SW.

107 Company : MICROSYSTEM S.A.
Address : José Miguel de la Barra 536 pisos 4 y 5.
Phone : 391070
FAX : (562)334525

Executives : Claudio Orsini G. Gerente General.
Raul Muñoz S. Gerente Comercial.

Codes : HW, SW.

108 Company : MINISYS DE CHILE
Address : Condell 801-A
Phone : 341749,345387
FAX : (562)341749,345387

Executives : Luis Bernstein Gerente

Codes : HW.

109 Company : MODULA LTDA.
Address : Luis Pasteur 6575-b
Phone : 2421220, 2422683
FAX : (562)2421220

Executives : Roberto Mahave
Andres Rojas

Codes : SVCS, SW.

110 Company : NCR DE CHILE S.A.
Address : Mac Iver 370
Phone : 380013
FAX : (562)334416

Executives : Frederick Price Gerente Comercial (I
Rodney Everard Gerente Comercial (I
Leonel Reich Gerente Comercial (I

Codes : HW, SW, SVCS.

111 Company : NETCO LTDA.
Address : Diagonal Paraguay 458 Piso 2
Phone : 335425, 331774
FAX :

Codes : SVCS.

112 Company : NETCOM COMPUTER SYSTEM
Address : Av Ossa 2259
Phone : 2275178
FAX : (562)6992675

Codes : Comput.

113 Company : NEXO COMPUTACION
Address : Av Seminario 653
Phone : 2229416
FAX :

Executives : Humberto Lira V. Gerente Comercial

Codes : SW

114 Company : NEXUS LTDA.
Address : Eliodoro Yañez 1075 of 11
Phone : 493871
FAX :

Executives : Genaro Villarino A. Gerente de Finanzas

Codes : SW.

115 Company : OLIVETTI DE CHILE S.A.
Address : Santa Elena 1587
Phone : 5567401
FAX : (562)5567712

Executives : Pablo Flores Chiesa Director Comercial P

Codes : HW, SW.

116 Company : ONDAC LTDA.
Address : Arzobispo Larrain Gandarillas 335
Phone : 346381 ,2228452
FAX : (562)346380

Executives : Paul Menard A. Gerente General

Codes : HW, SW.

117 Company : ORACLE DE CHILE S.A.
Address : Marchant Pereira 10 Piso 17
Phone : 2319118, 2318239.
FAX : (562)2332798

Executives : Pedro Aravena Córdova, Director Gerente.

Codes : SW.

118 Company : OPTIMISA
Address : Eliodoro Yañez 890
Phone : 490336, 2352360.
FAX : (562)461367

Executives : Alfredo Piquer G. Presidente
Fernando Prieto Gerente General

Codes : HW, SW.

119 Company : ORDEN S.A.
Address : Huérfanos 1052 Piso 12
Phone : 6953330
FAX : (562)6993368

Executives : Adriana Muñoz Marketing

Codes : SW.

120 Company : PERSYS
Address : Roosvelt 1618 ,Concepción
Phone : 041-231378
FAX : (562)041-228887

Executives : Mansour Sedaghat. Gerente General

Codes : HW, SW.

121 Company : PC STORE LTDA.
Address : Providencia 1449
Phone : 499908
FAX : (562)2351253

Executives : Ronald Heidecker V. Gerente General

Codes : HW, SW, SVS.

122 Company : PHANTOM INGEN. DE SOFTWARE LTDA.
Address : Apoquindo 3161 depto.91
Phone : 2314019
FAX : (562)2314019

Executives : J.Franco Bevilacqua V Gerente Comercial.

Codes : SW.

123 Company : PRICE WATERHOUSE
Address : Huérfanos 863
Phone : 383023
FAX : (562)333329

Executives : Patricia Méndez M. Gerente Ing. Softwar

Codes : HW, SW, SVCS.

124 Company : PRIOR CHILE LTDA.
Address : Holanda 1882
Phone : 490445, 491384
FAX : (562)491384

Executives : Jimmy Black C. Gerente

Codes : HW, SW.

125 Company : PROBYTE
Address : Merced 335 piso 5
Phone : 398892
FAX : (562)6990147

Executives : Enrique Benavides Z. Gerente

Codes : SW, SVCS.

126 Company : PROGRAM SOC.
Address : General Holley 76
Phone : 2517447
FAX :

Executives : Patricia Tapia C. Gerente

Codes : Comput.

127 Company : PROCESAC
Address : Moneda 1137 piso 3
Phone : 6970013
FAX : (562)723751

Executives : Alejandro Castro U. Gerente General

Codes : HW, SW, SVCS.

128 Company : RADIO-SHACK, TANDY
Address : Francisco de Noguera 42
Phone : 2315627
FAX :

Codes : HW, SW.

129 Company : REDCOM S.A.
Address : Obispo Donoso 9-a
Phone : 2747987
FAX : (562)2049581

Executives : Bernardo Andrews O. Gerente Div. Sist.y

Codes : SW.

130 Company : RIGG S.A.
Address : Av. Salvador 1068
Phone : 496595, 2250222
FAX : (562)2250240

Executives : Ricardo Gutierrez G. Gerente
Oscar Garcia M. Gerente Operaciones

Codes : SW,PERIF.

131 Company : RIMPEX CHILE S.A.
Address : Pedro de Valdivia 1667
Phone : 2235721
FAX : (562)2231129

Executives : Javier Vasquez M. Gerente General.
Carol Heitmann R. Gerente Comercial

Codes : HW, SW, SVCS.

132 Company : ROOT & CIA
Address : Monjitas 626 of 41 - 65
Phone : 336450, 384654
FAX : (562)2231129

Codes : HW, SVCS.

133 Company : SUN MOON STAR CHILE S.A.
Address : Av. Suecia 2307 - 2323
Phone : 490507, 490513, 2234270
FAX : (562)494737

Codes : HW,SW,SVCS.

134 Company : SCANDATA S.A.
Address : Providencia 1100 of 802
Phone : 2257289
FAX : (562)2257289

Executives : Andrés Acuña Gerente Técnico

Codes : SW, SVCS.

135 Company : SCI SOFTSERVICE LTDA
Address : Caupolicán 567 of 808, Concepción.
Phone : 041-236718
FAX :

Codes : SVCS.

136 Company : SEACOM LTDA.
Address : La Concepción 338
Phone : 2741953
FAX : (562)2741953

Executives : Fidel Labarca M. Socio

Codes : HW, SW, SVCS.

137 Company : SERCOM LTDA.
Address : Rafael Cañas 16 piso 5, of J
Phone : 2251249, 2049476.
FAX :

Executives : J. Pablo Schiaffino Gerente general

Codes : SW.

138 Company : SECOM LTDA.
Address : Av. Condell 1231 piso 6 Valparaíso
Phone : (032)234117
FAX : (5632)233887

Executives : Sergio Vargas T. Gerente Comercial.

Codes : SW.

139 Company : SISTECO S.A.
Address : VECINAL 40
Phone : 2341644
FAX : (562)2339895

Executives : Sebastian Ramirez C. Presidente

Codes : HW, SW, SVCS.

140 Company : SISTEMAS DIGITALES S.A.
Address : Av Libertador B.O'Higgins 2432
Phone : 728514
FAX : (562)6983429

Executives : Gerardo Gorodisher T. Gerente de Marketing

Codes : HW, SW, SVCS.

141 Company : SINCLAIR CHILE LTDA.
Address : Luis Thayer Ojeda 1234
Phone : 2310648, 2514350
FAX : (562)2516343

Codes : HW, SW.

142 Company : SISTEMAS COMPUTACIONALES LTDA.
Address : Alfredo Rioseco 0288
Phone : 2229406
FAX :

Codes : COMPUT.

143 Company : SITU LTDA.
Address : Carlos Antúnez 1831 of 206
Phone : 493470
FAX :

Codes : SW

144 Company : SOFOS CMA
Address : Teatinos 251 Of401
Phone : 6984322, 6961053
FAX : (562)6989169

Executives : Emilio Ander Fuhren Director Gerente

Codes : SW.

145 Company : SOFTLAND LTDA.
Address : 7ª de Linea 1247
Phone : 40090, 40100
FAX : (562)2233153

Executives : Luis Alberto Erazo Gerente General

Codes : HW, SW, SVCS.

146 Company : SOFTLOGIC S.A.
Address : Av. Fermin Vivaceta 1790
Phone : 353107
FAX : (562)353009

Executives : Patricio Fernandez D. Gerente General

Codes : HW, SW.

147 Company : SOLUCIONES COMPUTACIONALES S.A.
Address : Phillips 451 of 503
Phone : 6965774
FAX : (562)6965774

Codes : Comput

148 Company : SONDA LTDA.
Address : Teatinos 574
Phone : 6962277
FAX : (562)714666

Executives : Pablo Rosselot P. Coordinador

Codes : HW, SW. SVCS.

149 Company : ST COMPUTACION
Address : Génova 2086
Phone : 2514571, 2744679.
FAX :

Executives : J. Pedro Torres Gerente General

Codes : SW, HW, SVCS.

150 Company : SUCCESS
Address : Merced 152 Piso 4
Phone : 393951
FAX : (562)334022

Executives : Pedro Pablo Laso B. Gerente General

Codes : SW.

151 Company : SUR SOFTWARE
Address : Carlos Antúnez 2616 Of 12
Phone : 2319723' 2328895
FAX :

Executives : Nicolás Martelli R. Gerente

Codes : SW, SVCS.

152 Company : SYNAPSIS S.A.
Address : Santo Domingo 814
Phone : 6321240
FAX : (562)6965999

Executives : José Antonio Barros Gerente de Proyectos

Codes : HW, SW, SVCS.

153 Company : SYNTAX LTDA.
Address : Apoquindo 4430 Loc 7
Phone : 2061496
FAX : (562)2254338

Executives : Bolívar Quiroga Gerente

Codes : HW.

154 Company : SYSCAL
Address : Manuel Antonio Prieto 0148
Phone : 346091
FAX : (562)2227120

Executives : Néstor Manríquez Gerente General

Codes : HW, SW.

155 Company : SYSCOP S.A.
Address : José Miguel de la Barra 544
Phone : 336256
FAX : (562)336256

Executives : Gerardo Olguin . Gerente Comercial
Gregorio Preller Gerente

Codes : HW, SW.

156 Company : SZISOFT LTDA.
Address : Av 11 de Sept 2260 of 151
Phone : 2322009
FAX : (562)2322009

Executives : Isaías Szigeti D. Gerente Gen

Codes : SW.

157 Company : TAKUN INVERSIONES S.A.
Address : Viña del Mar 7, Providencia Stgo.
Phone : 345922
FAX : (562)2227932

Executives : Pia Ceppi Schacht Gerente Informatica

Codes : SW.

158 Company : TELEDATA
Address : Vecinal 90
Phone : 2467927
FAX : (562)2467928

Executives : Carlos Newmann S. Gerente Computación

Codes : COMPUT.

159 Company : TERABYTE LTDA.
Address : La Concepción 80, loc 2
Phone : 2745185 2253127
FAX : (562)494743

Executives : Adolfo Casari G Gerente Comercial

Codes : SW , SVCS.

160 Company : TESIS S.A.
Address : Miraflores 590 of 6
Phone : 330080, 6321037
FAX : (562)6321249, 2225830

Codes : Comput.,HW.

161 Company : THAM S.A.
Address : Av. Isidora Goyenechea 3199 Piso 2
Phone : 2330481, 2321428
FAX :

Executives : Elba Bocchieri Hardware
Guillermo Muñoz Software

Codes : HW, SW,SVCS.

162 Company : UNISYS CHILE CORP.
Address : Los Leones 325
Phone : 2312100
FAX : (562)2314284

Executives : Terence Cook Director Comercial

Codes : HW,SW,SVCS.

163 Company : UNYSOFT LTDA.
Address : Providencia 2392 Of 502
Phone : 2327672,2331302
FAX : (562)2319108

Executives : Eduardo Quinlan Carey

Codes : SW.

164 Company : UPGRADE CHILE S.A.
Address : Eliodoro Yañez 1789
Phone : 44230
FAX : (562)2513706

Executives : Roberto Inzunza B. Gerente General
Gonzalo Inzunza B. Gerente Mktg.

Codes : HW,SW,SVCS.

165 Company : WORDPERFECT CHILE
Address : Pedro de Valdivia 176
Phone : 2336898
FAX : (562)2332611

Executives : Carlos Galán Gerente General.

Codes : SW

166 Company : WORD SOLUTION CHILE LTDA.
Address : San Antonio 527 of 29
Phone : 336451
FAX :

Executives : J. Carlos Morales P. Gerente Comercial

Codes : COMPUT.

167 Company : XEROX DE CHILE S.A.
Address : Alcántara 30
Phone : 2460306
FAX : (562)2081438

Executives : Marco A. Muñoz H. Director Mktg.

Codes : HW, SW, SVCS.

IBM DEALER DIRECTORY
FOR AS-400

DEALER :	ADDRESS	PHONE NBR
Santiago:		
Contact Ingenieros	Bilbao 2921	497663
MEKANO Equipos	Magallanes 011	371831
Pragma	Huelén 75, depto.21	44624
Procesac	Moneda 1137, Piso 3	6970013
SIGE Acesores	Galvarino Gallardo 1724	2235303
SIGMA	Estado 337, Piso 10	394993
Skills Consultores	Huerfanos 863, Piso 4	383023
Sisteco	Vecinal 40	2341644
ST Computación	Genova 2086	2514571
Antofagasta :		
CODECOM - Chile	Washington 2577	227437
Valparaiso :		
Ingenieria de Soft.	Pudeto 351, of.7	
Concepción :		
TASCO	Av. Lib. B.O'Higgins 1068	230304
Temuco:		
Opciones	Bulnes 314, of.28	213797
Puerto Montt :		
Opciones	Talca 128, piso 2	255553

IBM DEALER DIRECTORY
FOR PS-2.

Santiago:

DEALER :	ADDRESS	PHONE NBR
CONDE	Huérfanos 1160, of.1103	6957303
Computerland	Sta. María 2560	2514001
Oficentro	Tobalaba 278 Ahumada 109	710836
Sisteco	Vecinal 40	2341644
ST Computación	Génova 2086	2514571

Concepción :

TASCO	Av. Lib. B.O'Higgins 1068	230304

2.3. Professional Associations

2.3.1. A.C.S.: Chilean Software Association.

It was created in 1986, with the purpose of furthering the level of knowledge on software and the development of software. It groups 35 of the largest and most important companies in the industry. Members pay dues to the association according to the number of specialists that work exclusively in software design, programming or development. This criteria gives rise to the following categories:

- "Large" company:firms with more than 10 software specialists.
- "Middle-size" company: firms with 5 to 6 software specialists.
- "Small" company: firms with less than 5 specialists.

A list of all ACS members is included with the Directory, in this report.

The largest companies in the association are IBM, UNYSIS, Orden, Sisteco, Softland and ASICOM (AISOFT).

The Association works in three areas:

- Software Exports: This task is assigned to the Committee of Software Exporting firms, that works in joint-effort with PROCHILE, the government export office. The Committee is responsible for generating an export product catalog, a periodic news page, the organization of chilean software fairs and events, and the participation and presentation of products of member firms at international events such as COMDEX and CEBIT.

- Develop new markets for software in Chile, by increasing the visibility of firms participating in the industry.

- Take part in international meetings, conferences and government events on software in order to take an active role in the design of regulations for the sector.

2.3.2. A.D.S.: Software Distributor Association.

It groups the distributors of imported standard packaged software, none of which participate in any of the other professional association. The only participant that has a branch office in Chile is Word Perfect. Its most relevant members are Lotus, Ashton Tate, Borland and Word Perfect. Some important members are Microcomputadores, a SONDA company, that represents Ashton Tate and Lotus; Success, which represents Borland, Quattro, Turbo C and Turbo Pascal and others, Microsoft (joint venture of Microsoft Chile and "Quinta Generacion" group), and Word Perfect, a chilean branch of WP USA.

The main objective of the ADS is software protection. At present the ADS is carrying out a massive advertising campaign to warn illegal software users of their crime.

Importers can be grouped by the type of hardware they specialize in.

- Software for Microcomputers: The main one is Microsoft. In this group are also Borland, Lotus, WP, Oracle and others.

- Software for Mainframes: Etica (the largest one), COMSOFT, Oracle, others.

- UNIX software: See chapter 2.1. on UNIX.

2.3.3. Comité de Empresas Exportadoras de Software: Committee of Software Exporting Companies

Companies: It groups 15 chilean software exporters.
President: Jaime Altamirano (General Manager of Sistema Integrales)
Vice-President: Pablo Daniel Palma (General Manager, ARS INNOVANDI).

Its main objective is to promote exports of chilean software abroad.

Some member firms include:

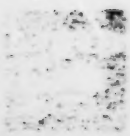
1. Sistemas Integrales
2. Ars Innovandi
3. Binaria
4. Synapsis
5. Sonda
6. Emergency 24
7. Autys
8. Softland

2.3.4. ACHEI: Asociacion Chilena de Empresas de Informatica. Chilean Association of Computer Related Companies.

It was founded in June of 1984.

The main objective of this group is to verify that trade and marketing of computer solutions are as transparent as possible, and to provide a valid spokesman for the industry vis a vis the government.

It groups the main suppliers of computer and communication systems. Many ACHEI participants define themselves as providers of computer "solutions", that is the combination of hardware, software and consulting services. Its 34 members account for more than 95% of the local supply of hardware, software and consulting. There is only a slight overlap with ACS membership, since 4 member firms of ACHEI also belong to ACS. This latter association is more directly related to software development.



MEMBER FIRMS OF ACS

1. ARS INNOVANDI S.A.
   Sr. Pablo Palma Keller — 231-19-36
   Providencia 2184 Piso 3

2. AISOFT
   Sr. Guillermo Alee — 231-81-49
   Los Conquistadores 1700 Piso 17B

3. BIGSA S.A.
   Sr. Roberto Hirsch — 232-03-23
   Francisco Noguera 41 Piso 4

4. BROWSE LTDA.
   Sr. Francisco Petour — 46-09-21
   Huelén 85 Of. 3

5. CENTRO INTEGRADOR DE DATOS
   Sr. Eduardo Baeza — 227-54-81
   Irarrázabal 5119

6. COMSOFT LTDA.
   Sr. José Icaza N. — 223-10-95
   Antonio Varas 806

7. CONDE S.A.
   Sr. Italo Bozzi — 695-73-03
   Huérfanos 1160 Of. 1103

8. CONSULTORES ASOCIADOS ELLIOTT Y CIA. LTDA.
   Sr. Jorge Elliott S. — 695-30-15
   Nataniel Cox 402 Of. 33

9. DECISION INTEGRAL DE SOLUCIONES AVANZADAS S.A. - DISA
Sr. Jorge Fuenzalida — 246-28-48
Rosario Sur 103

10. DISEÑO SOFTWARE LTDA.
Sr. Carlos Prieto M. — 274-21-77
Tucapel 0293

11. EMERGENCY 24
Sr. Germán Vicencio — 222-91-00
Carabineros de Chile 72

12. ETICCA S.A.
Sr. Giovanni Musso — 231-19-36
Providencia 2184 Piso 2

13. GESTION S.A.
Sr. Alfredo Martic — 34-10-10
Diez de Julio 363 A

14. GONZALEZ MAIER, RICARDO
J.M. Infante 22 — 225-08-80

15. I.B.M. DE CHILE
Sr. Claudio Guzmán — 33-44-00
Providencia 655

16. IDEA INGENIEROS DE EMPRESAS ASOCIADOS
Sr. Francisco Di Biase — 33-03-29
Merced 136 Of. 61

17. INFORMAT
Sr. Bernardo Segura — 225-93-10
Bilbao 3020

18. INGEVAL
Sr. Andrés del Valle — 231-63-90
Hernando de Aguirre 11 Of. H

19. LOGISCOMP LTDA.
Sr. Hugo Ortiz V. 681-64-38
Chacabuco 4-B Piso 3

20. NETCO LTDA.
Sr. Oscar Núñez V. 33-17-74
Diagonal Paraguay 458 Piso 2

21. OPTIMISA S.A.
Sr. Alfredo Piquer 49-03-36
Eliodoro Yáñez 890

22. ORACLE S.A.
Sr. Gustavo Prilick 231-91-18
Marchant Pereira 10 Piso 17

23. ORDEN S.A.
Sr. Rocco Abiuso 696-87-02
Huérfanos 1052 Piso 13

24. PINEDO INGENIEROS
Sr. Juan Luis Pinedo 696-19-91
Huérfanos 1373 Of. 1204

25. REDCOM CHILE
Sr. Bernardo Andrews 4-30-54
Obispo Donoso 9-A

26. ROYCO COMPUTACION
Sr. Luis Ropert 71-78-17
Agustinas 972 Of. 801

27. SISTEMAS INTEGRALES
Sr. Jaime Altamirano 38-18-41
José Miguel de la Barra 412 Piso 4

28. SISTECO
Sr. León Michelow 234-16-44
Vecinal 40

29. SOFTLAND LTDA.
Sr. Luis A. Erazo — 4-01-00
Séptimo de Línea 1247

30. SYNAPSIS S.A.
Sr. Víctor Hugo Muñoz — 696-90-83
Santo Domingo 1141

31. TOURGEON
Sr. José S. Carrasco — 274-73-46
Hernando de Aguirre 1620

32. TREWHELA, MARIO
Huérfanos 886 Of. 905 — 39-21-53

33. UNISYS (CHILE) CORPORATION
Sr. Alfonso Gallegullos — 231-21-00
Los Leones 325

34. UNYSOFT LTDA.
Sr. Eduardo Quinlan C. — 232-76-72
Providencia 2392 Of. 502

35. WINTEX LTDA.
Sr. Patricio Bravo — 695-25-11
Alameda 1146 Of. 202

Chapter 3: THE SOFTWARE MARKET IN CHILE

3.0. General Industry Overview

The software industry in Chile is characterized by the presence of almost all the largest international computer companies, either directly (IBM, NCR and others) or through distributors (SONDA DIGITAL).

Also, it is difficult to separate the hardware from the software, since an important segment of software products are oriented to the basic operation of computers (operating systems, and utility packages).

One software classification groups the applications with the following criteria:

- Operating Systems (DOS,UNIX)
- Specific Software (Accounting, production , etc.)
- General Use SW (Dbase,Lotus,CSS)
- Utility Packages (PCTools, Editors)

Since most respondents emphasized the growing tendency to use UNIX in Chile, we have dedicated a part of this chapter to its analysis.

3.1. The UNIX Operating System

The operating System (O.S.) of a computer is the basic software which allows the user to interact with the hardware. In this area, the war between open and proprietary systems continues. Due to its excellence Unix has become the open system of choice thanks to its efficiency, portability and compatibility. Twenty years after its creation, and after having been the standard operating system at the academic level, Unix had now begun to conquer the other market segments as well. In the mean time, the proprietary systems of the big companies continue thanks to their captive markets or their specific applications (i.e. commercial applications).

The various applications of Unix in the market, range from microcomputers (for example, Xenix) to mainframes. All of these are based on the System V of AT & T or on the Berkeley 4.3 of the University of California. At present, there is a strong standarization effort among all implementations.

3.1.1. UNIX Users in Chile

As in the rest of the world, Higher Education has been the sector that has developed the technology to its greatest extent, in an effort to have the same tool available in the nation as in similar institutions abroad.

The remaining areas that have begun to operate with UNIX, not as a result of specific decisions on open systems, but rather as a consequence of the sales efforts from hardware suppliers, who at a given moment decide to promote hardware that runs on Unix operating systems instead of other alternatives. NCR is the best example of this since it decided to give up its line of I equipment to replace it by the Unix line, that is, Unix based.

Thus, currently there are UNIX devices in various activity sectors, without there being a marked tendency in any one of them. One exception is the case of fruit export companies where almost all information is processed by UNIX hardware.

Other segments where UNiX equipment can be found are:

- Government and Municipalities
- Health Institutions and Health Services
- Financial Institutions
- Trade (Retail & Wholesale)
- Industrial Companies
- Mining Companies
- Other sectors

At the higher education levels nearly all universities and higher education institutions have UNIX equipment available. Some examples of these are: Universidad de Chile, Universidad Católica de Chile, Universidad de Santiago, Universidad Federico Santa María, Universidad Andrés Bello, Universidad del Norte, Universidad de Tarapacá, Universidad de la Frontera etc., and also the Institute Campus and CIISA.

In the Government sector, UNIX is present in SENCE (National Training and Employment Service), the Superintendency of Pension Fund Associations (Superintendencia AFP), INDAP (Institute for Agro Fish Development) and the Municipalities of Santiago, Estación Central, Providencia and the Justice Department, among others.

In the health sector, Santa María Clinic, the Laboratories Durandin, Profarma and Astorga, among others, operate with UNIX devices.

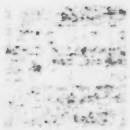
There are UNIX devices in the Financial Sector as well, such as at Banco de Chile, Banco Osorno, Banco de Santiago, Banco Continental, Inversiones Errázuriz, etc.

In the business sector are: Corona Department Store, Comercial Estado, Hertz Rent Car, Rolec, Gacel Shoe Stores, etc.

UNIX is also used in the industrial sector such as in Dos en Uno Confectionary (LQL), Inchalam, Compac, etc.

The mining companies, Minera Las Cenizas, Minera Mantos de Oro and CODELCO are examples of UNIX installations in the mining sector.

Finally, it is worth mentioning that there are also UNIX devices at companies such as Sheraton Hotel, Edwards y Cerutti, FRUPAC, Ultramar Shipping Company, United Trade Company, ORDEN, SYNAPSIS, OPTIMISA, Pehuenche, etc.



3.1.2. UNIX Software available in Chile

The variety of UNIX software available in Chile is not as wide as the hardware supply. This occurs as not all UNIX software corporations have active agents in Chile. Despite this, principal packages have agents and many others are directly offered by hardware representatives.

The main Data Base and fourth generation packages such as, ORACLE, INFORMIX and UNIFY have agents who supply local maintenance as well as sales.

XENIX and PV/IX Operating System (by Santa Cruz Operation and Interactive Systems, accordingly) for personal computers based on Intel line processors also have agents in the nation providing local maintenance apart from their sales activities.

Wordperfect for word processing is also available for UNIX and is distributed in Chile by its agent.

On the other hand, nearly all local software corporations are ready to construct applications on request to be used in UNIX devices. They generally use fourth generation languages such as, ORACLE or INFORMIX as support.

3.1.3. Principal Applications

Due to the market's incipient nature, there are still no evident applications in UNIX devices. However, there are some banks where UNIX equipment is used to perform exchange processes by controlling specialized magnetic character equipment.

The Superintendency of Pension Fund Associations (Superintendencia de AFP) controls all aspects of the new Pension System by means of a network of 3 UNIX computers.

A similar situation occurs with INDAP (Institute for Agricultural and Livestock Development) which has over 50 UNIX computers.

The Real Estate Registry Office in Santiago keeps a record and index of documents in computers operating with a UNIX Operating System.

3.1.4. UNIX versions in Chile

Most of the various UNIX versions available in Chile are listed in the following table:

Companies that supply UNIX in Chile

	UNIX Version	Supplier (Distributor)
1.	AIX	IBM
2.	SCO Xenix/386	TASCO
3.	SCO Xenix/386	TASCO SISCLONE CACHE (SISTECO)
4.	SCO Xenix/286	TASCO
5.	Unysis System V	UNYSIS
6.	DG/UX	DATA GENERAL
7.	HP-UX TASCO	Hewlet Packard (ASC)
8.	A/UX	Apple
9.	ULTRIX	Digital (Sonda)
10.	Texas Instruments System V	Texas Instruments (Sistemas Digitales)
11.	UNIX System V	N.C.R.
12.	REALIX	Modcomp (Rimpex)
13.	386/IX	Interactive (Upgrade)
14.	DYNIX	Sun Mycrosystems (Sisteco)
16.	ALTOS SYSTEM V	ALTOS
17.	TOWER O.S.	N.C.R.
18.	DOMAIN/O.S.	Apollo (Rimpex)

The UNIX versions of Sun and DEC equipment (Sun/OS and ULTRIX) are based on the BSD 4.2 and 4.3 standards, however they partially incorporate System V function, especially library routines and Operating System requests.

The remaining versions, that is, HP-UX, DG-UX, Tower/OS, UNYSIS System V, etc., are all quite similar and are based on the System V Release 2x and 3x. All of them incorporate the best of the BSD distribution, especially HP-UX and DG-UX.

3.1.5. Legal Framework for UNIX

Legislation and Binary Licenses

UNIX's case is not different to that of the rest of the software industry in Chile and has the same protection as the rest of the software products.

However, the situation with UNIX is much easier to control than the problem with personal computers. In the first place, we are dealing with large equipment whose use and applications are generally known by suppliers. Secondly, when using different processors and different UNIX versions only the programmes can be directly transferred to devices from the same line and supplier.

The main impediment for Chilean Universities to operate with UNIX was that Western Electric original Unix developer (Subsidiary of AT & T), the dealer for UNIX in the past, only sold equipment with the source code but doubted about the copyright protection it would receive in Latin America.

Later, UNIX was redesigned so that the source code would not have to be given and thus created sublicenses for access to the binary code. To date, no user in Chile is known to have access to the source code, since all licenses have restricted access to the binary code.

3.1.6 Future Opportunities of UNIX Software in Chile

In terms of Open Systems versus Proprietary Systems trends, Chile should follow the world tendency of greatly increasing UNIX use.

According to estimates, we can expect a strong increase in all sectors as a consequence of the following:

- Universities will continue to train professionals prepared at UNIX who will urge the replacement of closed systems as they fill positions of greater responsability.

- With the exception of the larger suppliers, the rest shall promote UNIX and open systems in general as part of their main business strategy. Small-scale suppliers (and in the long run large scale suppliers as well) will not be able to bear development costs of propietary technologies which, in the case of multi-user devices, will strongly encourage UNIX as a solution.

- Due to pressure from suppliers and experience from the first UNIX users, other users will also become interested in the subject. Many of them will be able to value the advantages of breaking ties with closed technologies and shall begin to plan their transition.

- Finally, application consultants and developers are also likely to promote UNIX. The experience gathered from working with Operating Systems and applications that have been developed can be transferred to all companies working with UNIX. Consequently, these professionals can increase their field of scope without the need to change their systems nor learn other technologies.

3.2. Demand Variables

There has been a strong increase in the demand of software due the rapid expansion of hardware use in all kinds of human activities and the considerable decrease in costs of computers as a consequence of technological innovations and new production methods.

As a response to such demand, the leading software dealers engaged a great number of man hours in researching products that would satisfy user needs and the same time make the best of the current technology. With time, software has become a key expenditure item for companies who intend to automize an organization. As an example, it is worth noting that for each AT PC sold by a hardware supplier, approximately 60 % of its value corresponds to software (Operating System, Utilities, Worksheet and Word Processor).

3.2.1. Hardware Platform

The type of existing software can also be categorized according to hardware platform it uses.

(a) Personal Computers:
- IBM compatibles
- Apple MacIntosh
- Multiuser software for Local Area Networks, which overlaps with software for multiuser equipment.

(b) Minicomputers:
- UNIX equipment
- Multiuser midrange equipment with proprietary architecture.

Software developed in Chile in this category covers mostly UNIX and some software developed for AS 400.

There is a business opportunity in the entry into software supply in the minicomputer category.

(c) Mainframes:

Almost all the software for this category is imported, and there is demand for special systems which are discussed further on.

Some local development has been conducted for IBM 390 equipment.

Mainframes conform a heterogeneous market, and each system is a separate reality.

(d) Special Purpose Computers:

These are specific market niches for specific uses, such as automatic control process, fault-tolerant equipment (such as Stratus/IBM 88 which handle ON-2 share financial systems, and Tandem). The software for this segment is oriented to systems integration.

3.2.2. Sector Analysis

(a) Mining sector:

There is a growing use of workstations, replacing Mainframes. Engineering processes are handled mostly on workstations, because of substantial advantages in maintenance costs, higher processing speed, and increased productivity. Mainframes are used for the administrative functions.

This switch is creating a strong demand for software to be used in workstations. This is the case of CODELCO, the national copper mine.

Some experimental work is carried out in this field by Sonda, Synapsis and the Universidad Santa María.

In Chile, there aren't companies that develop specialized software for the mining sector as their main product.

Software opportunities in this field include automatic control systems, operations planning and programming, simulations, reserves calculations and a number of engineering processes.

This software involves high complex technology. This complexity causes their implementation to be slow given the information and training requirements.

The planning software is usually operated by Mining engineers and the production software by Mechanical engineers.

Some of the companies that import software in this sector include:

- NCL, a company that represents MINCOM
- RTZ, a company that specializes in mining prospection software.
- M and C,dedicated to planning software.

There is great interest at present in many local and international suppliers to enter this segment. As a point of interest, MINCOM, the world leader in mining operations software, will create a direct branch in Chile.

(b) Geographical Information Systems:(GIS)

This is an image processor which combines information in different planes.(For instance, irrigation, rivers, type of harvest, etc.).

There is an interest in companies in the mining, forestry, industrial fisheries, oceanograhpy and agroindustrial sectors for this type of software.

A present, there is an experimental project under way, with the joint efforts of NASA in Chile, CONAF and CIREN, two government entities dedicated to natural resources administration.

The project involves the monitoring of a large expanse of agricultural terrain in the southern 9th Region of Chile, to verify aspects such as forest fires,volcanic eruptions, water contamination, and other variables.

The suppliers at present of GIS in Chile include Sonda, with PAMAP; and INCOM, (Ingenac) which distributes ARC-INFO of ESRI, USA.

This software was introduced about three years ago and it is an area of rapid growth. The cost of the software is about US$60.000. (Arc-info). Thus, the software decision conditions the purchase of the hardware, since in this case a workstation to run the program has an estimated price of US$35.000.

(c) Communications:

There is a trend toward data digitalization and satellite communications, and towards multimedia integrated services (voice, text and image).

There is a demand for systems of automized servicing, for the development of intelligent stations, and for administrative information and control systems. Also, the sector is an important consumer of software programming and development tools, and is also beginning to analyze Geographical Information Systems.

Companies use Local Area Networks and Digital Networks.

There is a strong tendency in the sector towards open systems.

(d) Insurance companies, Pension Funds and Health Maintenance Organizations: (HMO)

This sector is characterized by the large volume of data that it handles. Its operational problem causes it to always demand software to process vast data.

This need has motivated pension funds to develop their own software, and has geared two local software suppliers, Sonda and Synapsis to develop specialized software for this segment.

The opportunities in the sector are mainly in advanced data base software, and in the management systems, where office automation is still at a beginning level.

Also, the Pension Fund System is beginning to have the problem of handling retirees who demand periodic payments and pension fund benefits, and the necessary software is not yet available.

Thus, the opportunities lie in the self-service possibilities of the pension fund system and in a software for retiree management.

Insurance companies require customized software, and the adapting of existing systems is so costly that most companies develop their own software. There is a pervading requirement for speed in processing and data recuperation in this market segment.

(e) Financial Institutions:

There is a need to increase automizing of end-user banking centers (Automatic teller machines, terminals in supermarkets, shopping centers, etc.) which emphasize the graphic interface with the terminals.

There is a change in hardware platforms towards more open systems and UNIX.

The "client-server" model is applied as well as networks.

There is a demand for programming tools and a trend toward multimedia use.

There is intense internal software development due to the difficulty in adapting foreign packages which do not consider the legal banking framework in Chile. However, the areas in banks where software is required are:

- Foreign Trade
- Investment handling
- Intermediary services
- Document Custody
- Specific software such as credit risk analysis

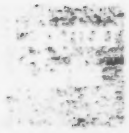
(f) Industrial Sector (Production, Manufacturing)

This sector demands automated control processing.

The trend is toward the use of MILL-WIDE software to allow the integrated administration of production plants. All existing packages are imported, and there is a change from process control to mill-wide integrated control which allows automized operation, and the control of input and output processes.

The food industry is a large potential customer of this software, in companies such a IANSA (National Beet Sugar Company), Dairy companies, and Lever Chile (detergents, edible fats, etc.).

Another area of software demand in the sector is the "expert shells". (An expert shell is a generator of knowledge through heuristics).



(g) Educational Sector:

It is a large user of Operational systems, compilers and communications systems as well as advanced programming tools.

(h) Other sectors:

There is demand for expert shells in segments such as supermarkets, credit analysis in banking, and expert maintenance systems in mining and paper mills.

In the hotel segment, there is a potential business opportunity for all the In-Room systems and services some of which are offered on an international level by SpectraVision. These services contemplate the usage of the room's television set as a two-way communication channel between the hotel and the guest for varied purposes, such as check out and bill payment, request of room service and others. Hotels also require locking systems software with security devices, administrative software such as payroll handling, assistance and attendance control systems and general administrative software.

The most visible opportunity in the hotel sector lies in the middle size hotel segment, which has experienced an impressive growth in the last three years in Chile. This segment needs a hotel administration software that would run on local area networks of PC's, with 6 or less terminals.

In private hospitals there is the opportunity for the use of software for medical purposes. For instance, a pharmacological software which would allow drug cross evaluation. These types of specific packages are not available at present.

(i) Government Sector:

The different ministries and organizations have a permanent demand for efficient information retrieval systems.

Recently, for example an IBM software package named STAIRS, which is an efficient information retrieval system, was purchased for Congress. However, there is ample opportunity for other packages of this type and for data base software.

This sector is looking for portable open-system solutions, which do not tie the user to a specific hardware platform.

In general, we observed:

- General need for Executive Information Systems.
- Trend towards open systems and portable systems, searching for an independence of the hardware platforms, greater functionality and speed and lower cost.

3.3. Legislation on Software Production and Use

In Chile, until recently the market tended to operate with illegal copies of software since there was no law of copyright protection. A couple of years ago, in 1989, a strong temporary demand was generated when authorities published a general law on the subject as a result of legal actions taken by the agents of the leading software dealers, the majority of whose products have been copied (Lotus, Ashton Tate, Borland, Microsoft, etc.).

Aside of the strong sales increase experienced by agents, the most important effect of this action, which undoubtedly was the intention of suppliers, was that users became aware of their crime since software is a product with copyright of commercial value. As a result,

the software market has grown considerably according to import figures, and it is expected to continue increasing due to greater solution requirements of users whose activities tend to become more and more automized.

Chile is a signatary of all the international agreements which protect intellectual ownership. Intellectual ownership is a right, defined in the article 27 of the Universal Declaration of Human Rights. This article differentiates between moral and patrimonial ownership. The moral right which recognizes the authorship of a work is not transferrable. The patrimonial right however, is subject to contracts. That is, an invention may be sold and the patrimonial right over the work is transferred, and the author loses all ownership rights.

3.3.1. Specific Legal Aspects:

(a) Customs, Import and Export Tariffs.

The legal problems that arise in this area stem from the fact that chilean Customs have problems determining the value of software products and do not yet have specific regulations for software. At present, there is a tendency to confuse tangible with intangible goods for duties and customs regulations. Some regulations sustain that if a material product-such as hardware -is accompanied by intangible products, then these second products are ruled by the laws of tangible material goods, and pay only 11 % of duties. That is, compilers and operating systems that enter the country with the hardware are viewed as part of the physical product.

A data base however, cannot be considered with this approach since the value of it resides in the data it contains.

Intangibles tend to be charged the import/export duties of "consulting services" of 35%.

Customs groups software into three categories:

- Standard software
- Standard applications software
- Special applications software

Duties are payed according to this categorization. Standard software and standard applications software is associated to hardware and charged 11 %, while special applications software implies a consulting effort and it is charged 35 % duty.

(b) Accounting Aspects.

The accounting treatment of software for depreciation purposes for instance, poses various legal conflicts. Clearly, the hardware is part of the physical assets of a firm and may be depreciated over the active life of the equipment, but the software may follow this treatment under Chilean law only if the hardware and the software were purchased together as a package.

If the software was bought separately or developed within the company, it must be treated as an expense and charged to the same period when the expense was incurred.

(c) Foreign Exchange and Taxation Regulations:

The Central Bank of Chile seems to be decreasing its interest in participating in short-term exchange operation. It only requires that companies declare their profits and that the data should be consistent with taxation information. This makes systematic data on sales of software and services suspect, since imports and exports of software may be conducted in a disguised form due to Customs regulations. And the measurement of software sales and services (including customized software, systems support, timesharing, documentation, and data

base access) is made even more difficult by the parallel phenomena of consolidation and overall sector growth that are blurring the distinction between the software and service market segments. Software firms are expanding the service parts of their businesses, and service companies are increasingly stepping up their packaged software efforts in order to build stronger bases. Also, the electronic transfer of software via modems allows for an additional gateway for unregistered sales.

Furthermore, when importing software, any remittance of foreign currency for services payment purposes is charged a 35% duty. In the United States this payment is credited to the firm's tax debt. In Chile, there is no recognition of prior payments so the importer has to pay separately again for tax purposes. This situation is particularly so for software that is to be used in middle size computers and mainframes because this type of software is charged higher duties. It is thus common for importers to avoid officially declaring their imports (or exports).

(d) Software Protection:

The property of software in Chile is regulated by Law Decree Nº17.336 which is the Intellectual Property Law approved on October 2 of 1970.

In 1990, a new law, Nº18.957 was passed which introduces changes in the Intellectual Property Law, and modifies article 76 Nº1 of Law Nº17.336, so that computer software is now formally susceptible to legal ownership.

Some of the more relevant articles in this law are the following:

- Article 5, letter T: Defines computer programs and the copying of software programs.
- Article 8 (second and third section): Identifies the owner of the program.
- Article 10: Indicates that the protection of software lasts for 30 years.
- Article 47: Describes exceptions with respect to security copies.

- Article 76: Defines the dues to be payed for the inscription of software, since the standard procedure is that they are reinscribed in Chile.
- Article 80, letter B: Describes felonies.

In general, the law suits ensued by the application of this law have not led to the imprisonment of the guilty parties but rather to an agreement between the parts, whereby the party sued pays the software company and formally promises to purchase the software.

3.3.2. Present and Future proposed Government Policies and Regulations for the Software Industry.

The government in Chile has inevitably become involved in information technology in general and in software in particular as buyer and user. Recently there is a project to centralize all government computer-related purchases in one decision center called D.A.E. (Dirección de Aprovisionamiento del Estado) the Governmental Purchasing Department which has functional dependence on the Ministry of Interior. A Law Decree specifies that the D.A.E. should centralize purchases of "supplies for computer solutions", a terminology which leaves unclear the scope of action of this Department.

The software supplier industry strongly objects to this government proposal for the following reasons:

- Each government entity, ministry or department is different, and therefore requires a different computer "solution".

- Information technology related purchases require highly trained specialists with expertise in their field, a resource which will not be available in the DAE.

- The persons in charge of purchasing decisions at the DAE would have excessive power over financial resources, and over suppliers. In the long run, this would be harmful to the government's interests.

An example of the volume of resources involved in government purchases is the situation of the National Registry Office, which is functionally dependent from the Ministry of Justice. One of the respondents mentioned that this Office has been assigned funds from an international loan destined for the acquisition of computer equipment in government entities, and it has recently completed the first stage of purchases involving about US$ 8 Million.

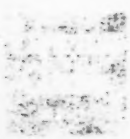
Another example is Congress, that is acquiring new equipment and software with a loan of the Italian government.

The government has created a specialized task force to evaluate the software and hardware needs in the public sector. It is called the Grupo Informatico (Information Technology Group) and it is directed by Mr. German Quintana. The group is functionally dependent upon the Ministry of the Interior, and its offices are in the Moneda (seat of government building). One of the objectives of this group is the normalization of standards in the public sectors to achieve open systems.

The government organizations have a dire need for data base software, and information retrieval packages, however, there is a limited funding for these purposes.

Aside of the Intellectual Property Law geared to software protection, there is an absence of laws and regulations in this field. There is consensus in the industry however, that there is no need to legislate on the products, due to rapid obsolescence and ever-changing technology. Yet there is the need to regulate the use of information technology and to define the actions that imply a crime or offense. At present, a law project has been presented to Congress and it is still under discussion,with the definition of Computer Crime and its punishment. (Viera-Gallo Project).

This law proposes sanctions for offenses such as computer fraud, or unethical use of information.



Also ACHEI, the Chilean Association of information technology companies, has created a Code of Ethics to regulate the behavior of industry participants, protect free competition in the market, and create an instance of support and appeal for users of information technology products and services.

The Code of Ethics was approved in 1989 by ACHEI member firms.

Chapter 4. SOFTWARE IMPORTS AND EXPORTS

4.1. Software Imports

The purpose of this report is to provide an estimate of the total software imports to Chile, their evolution and trends in the last three years including 1991.

The procedure applied consisted in collecting data from the Central Bank of Chile and General Customs Direction files respectively.

To be able to do an analysis in detail, the procedure consisted in separating the information collected into Units, Dollars, Brands and kind of software imported, for each year.

Limitations of the Study

The figures contained in this report reflect only part of the reality, due to existing distortions which are detailed below :

Tariff Problems:

The 11% tariff on the application software and the 35% tariff on specialized software, induce some importers to sometimes show items in the import declaration of the latter kind as an item of the former kind, so as to save the difference by paying a lower tax.

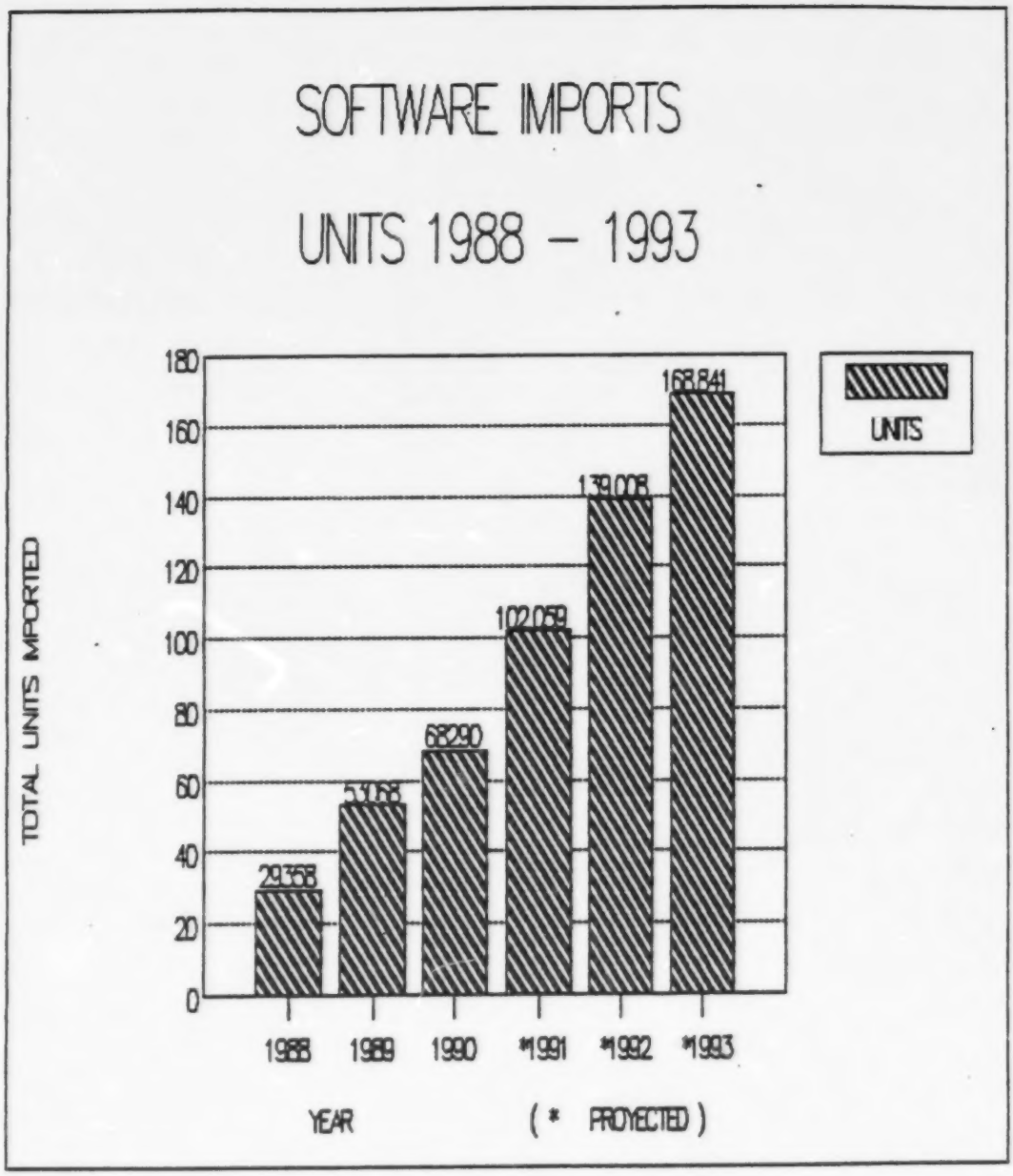
Quantity imported:

Similarly, it is very difficult to control the real volume entering the country, because there are many softwares that are imported inside their own manuals; even more these products can be introduced electronically via phone modem.

Information on standard software imports was prepared from official import records approved by Banco Central de Chile and Dirección General de Aduanas, for the years 1988, 1989, 1990 and 1991.

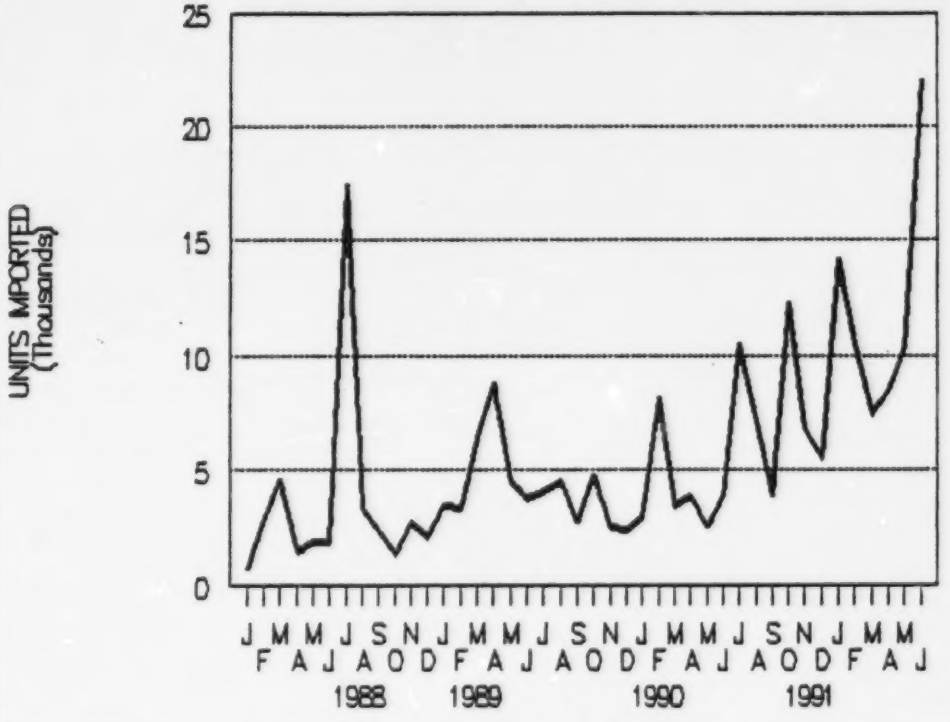
Through this period, 243,812 standard units wre imported to Chile, amounting to a total of US$ 40,329,000. In 1989 53,076 standard software units were imported, representing an 80.8 %, growth as compared with 1988 in which year 29,538 units were imported. In 1990 88,227 standard software units were imported, representing a 66% growth rate in comparison to the last season. Until June-1991 the imports accumulated for the year are 72,979 units with a projection of 102,059 units for the season.

In the coming years, the standard software market is expected to be in continued increase, at moderate decreasing rates, following the pattern of the previous three seasons. (See Chart).


SOFTWARE IMPORTS
UNITS 1988 – 1993
TOTAL UNITS IMPORTED
180
160
140
120
100
80
60
40
20
0
29368
53068
68290
102059
139008
168841
UNITS
1988
1989
1990
*1991
*1992
*1993
YEAR
(* PROYECTED)

SOFTWARE IMPORT (UNITS)

MONTHLY BEHAVIOR 88 – 91



IMPORT EVOLUTION IN THE FOUR LAST YEARS

YEAR	UNITS	% VAR	US$ (Thousands)	% VAR
1988	29538	----	9913	----
1989	53068	+81%	13691	+38%
1990	88227	+66%	11663	-17%
1991	102059	+16%	8099	-30%

The imports behavior in general reflects a constant increase in the quantity of units imported, showing a growing demand in the Chilean market.

Observing the total amount of dollars imported each year it is easy to see that the trend for the last seasons is towards the decrease. This could be explained on the one hand by the growth of the competition which results in lower prices, and on the other by the development of the Chilean Software industry.

1988

MONTH	UNITS	%	US$ (Thousands)	%
January	719	2%	548	6%
February	2783	9%	760	8%
March	4648	16%	994	10%
April	1488	5%	557	6%
May	1837	6%	1788	18%
June	1880	6%	642	6%
July	4121	14%	568	6%
August	3311	11%	707	7%
September	2393	8%	390	4%
October	1362	5%	932	9%
November	2702	9%	1142	12%
December	2814	9%	885	9%
	29538	100%	9913	100%

1988, the first year to be examined by this study, reveals interesting volumes of imports in units and dollars, with a great concentration of the market on the principal participants that will be analized in this report.

1988 Principal Importers:

There is no information available for 1988, but there is information for the other years.

1988 Principal Brands Imported:

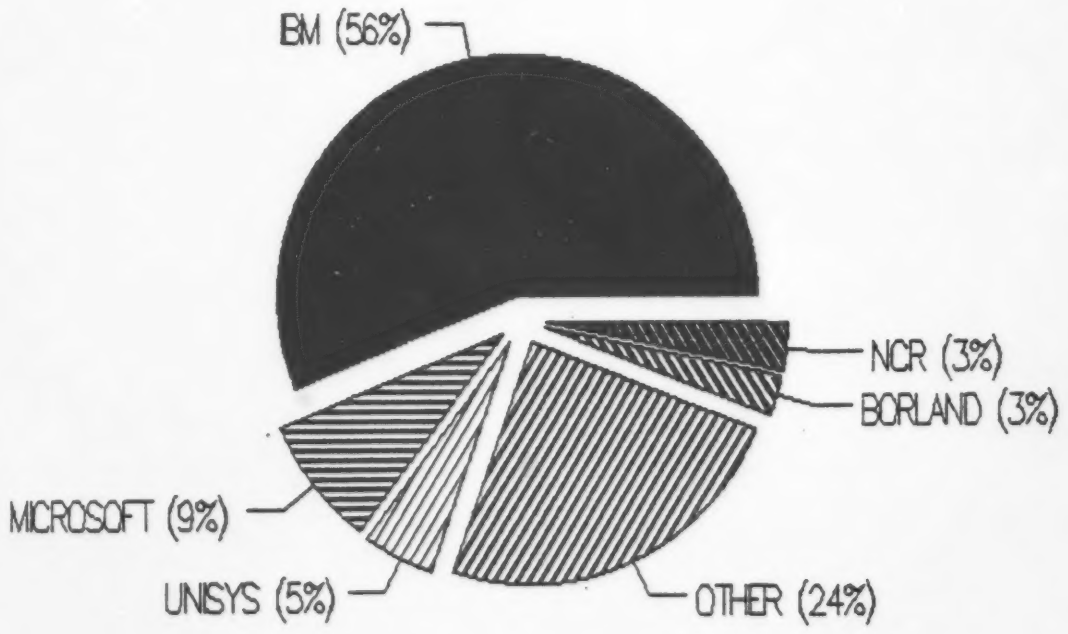
PRINCIPAL BRANDS	UNITS	%	US$ (Thousands)	%
IBM	16544	56%	6274	63%
MICROSOFT	2593	9%	262	3%
UNISYS	1391	5%	221	2%
BORLAND	865	3%	205	2%
NCR	832	3%	205	2%
OTHER	7133	24%	2809	29%
	29358	100%	9913	100%

During 1988 IBM leads the market as a major brand present in it with a 56% of the units and a 63% of the total amount of dollars imported, in second place is Microsoft followed by Unisys, Borland and NCR. Other brands important are Lotus, Ashton Tate, Novell, Word Perfect, and Microsoft Intl. that are beginning to be present between the principal software demanded in the market.

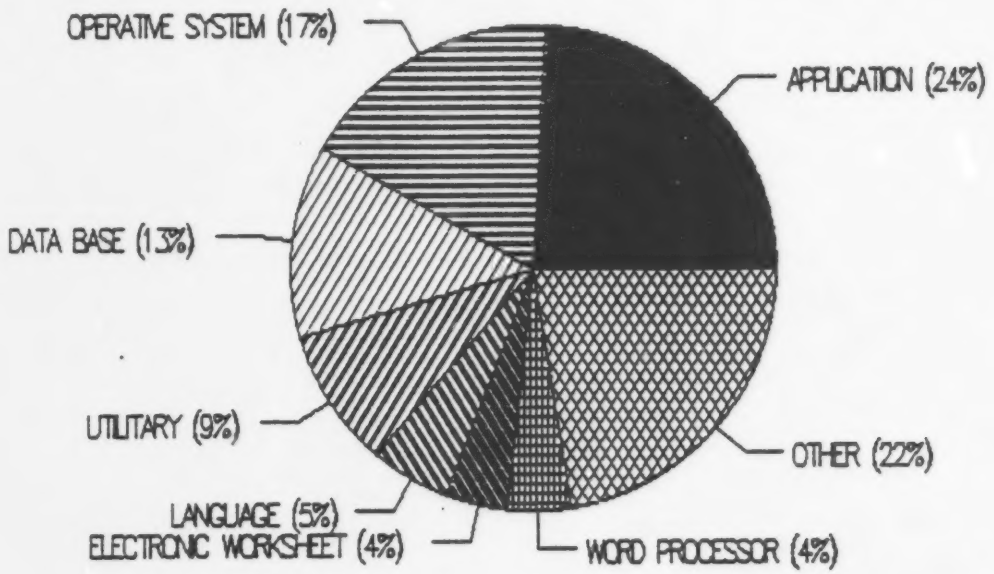
1988 Principal Kind of Software Imported

KIND OF SOFTWARE	UNITS	%	US$ (Thousands)	%
APPLICATION	7141	24 %	4363	44 %
OPERATING SYSTEM	5101	17 %	448	5 %
DATA BASE	3813	13 %	728	7 %
UTILITARY	2763	9 %	577	6 %
LANGUAGE	1562	5 %	550	6 %
ELECTRONIC WORKSHEET	1203	4 %	256	3 %
WORD PROCESSOR	1200	4 %	291	3 %
OTHER	6575	22 %	2812	26 %
	29.358	100 %	9913	100 %

1988 SOFTWARE IMPORTS
PRINCIPAL BRANDS (UNITS)



1988 IMPORTS
KIND OF SOFTWARE (UNITS)



The principal kinds of software imported for 1988 are mainly Application with a 24% of the units and a 44% of the total amount of the dollars imported, in second place Operating Systems with a 17% of the units and a 5% of dollars, followed by Data Base Administrator with a 13% and a 7% respectively. Other important kind of software imported this season are Utility, Language, Electronic Worksheet and Word Processor.

1989

MONTH	UNITS	%	US$ (Thousands)	%
January	3442	7 %	2110	15 %
February	3327	6 %	926	7 %
March	6390	12 %	1079	8 %
April	8822	17 %	803	6 %
May	4560	9 %	1256	9 %
June	3765	7 %	1953	14 %
July	4136	8 %	1115	8 %
August	4534	9 %	952	7 %
September	2705	5 %	907	7 %
October	4807	9 %	892	7 %
November	2474	5 %	918	7 %
December	4114	8 %	679	5 %
	53076	100%	13690	100%

During 1989 the increase of imported units was about 81% comparing with the previous season, and the amount of dollars was a 38 % more than 1988.

This year new competitors began to appear in the market, so the number of import operations was more considerable than other years.

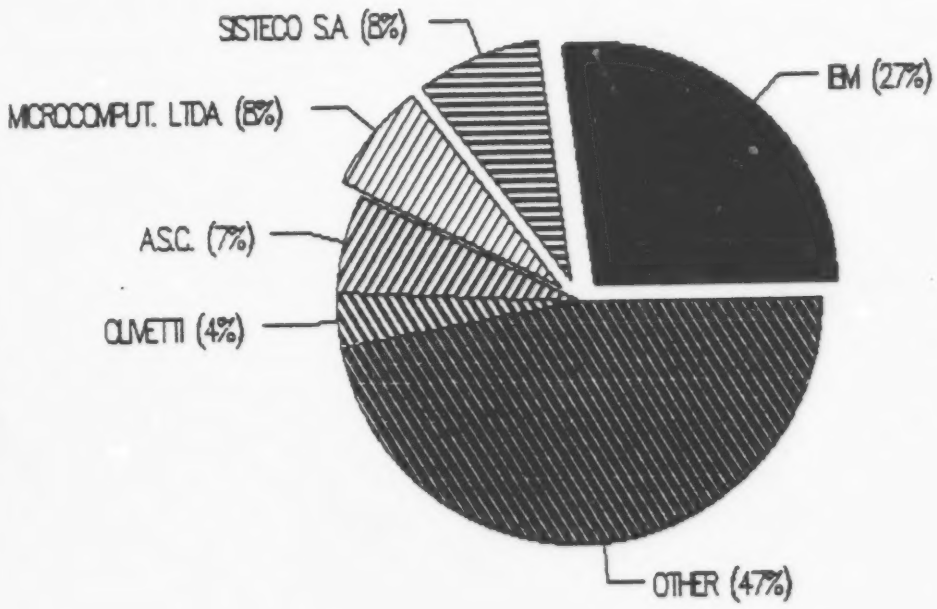
1989 Main Importers

COMPANY	UNITS	%	US$ (Thousands)	%
IBM	14346	27 %	4109	30 %
SISTECO	4251	8 %	862	6 %
MICROCOMPUTADORES LTD.	3989	8 %	1100	8 %
A.S.C.	3570	7 %	360	10 %
OLIVETTI	1970	4 %	492	4 %
OTHER	24950	46 %	6767	49 %
	53076	100%	13690	100%

The main importers of software take 54% of the market in units, and 51% of the total amount of dollars imported during this year.

IBM is leading the market with a 30% of total units imported, in second place is SISTECO and MICROCOMPUTADORES LTD., with 8% each , followed by A.S.C. with 7% and OLIVETTI with 4% respectively.

SOFTWARE 1989
MAIN IMPORTERS (UNITS)



1989 Principal Kind of Software Imported

KIND OF SOFTWARE	UNITS	%	US$ (Thousands)	%
WORD PROCESSOR	69644	13 %	770	6 %
APPLICATION	6336	12 %	4869	36 %
OPERATING SYSTEM	6129	12 %	1253	9 %
ELECTRONIC WORKSHEET	4103	8 %	879	6 %
UTILITY	3699	7 %	573	9 %
OTHER	25845	49 %	5346	39 %
	53076	100%	13690	100%

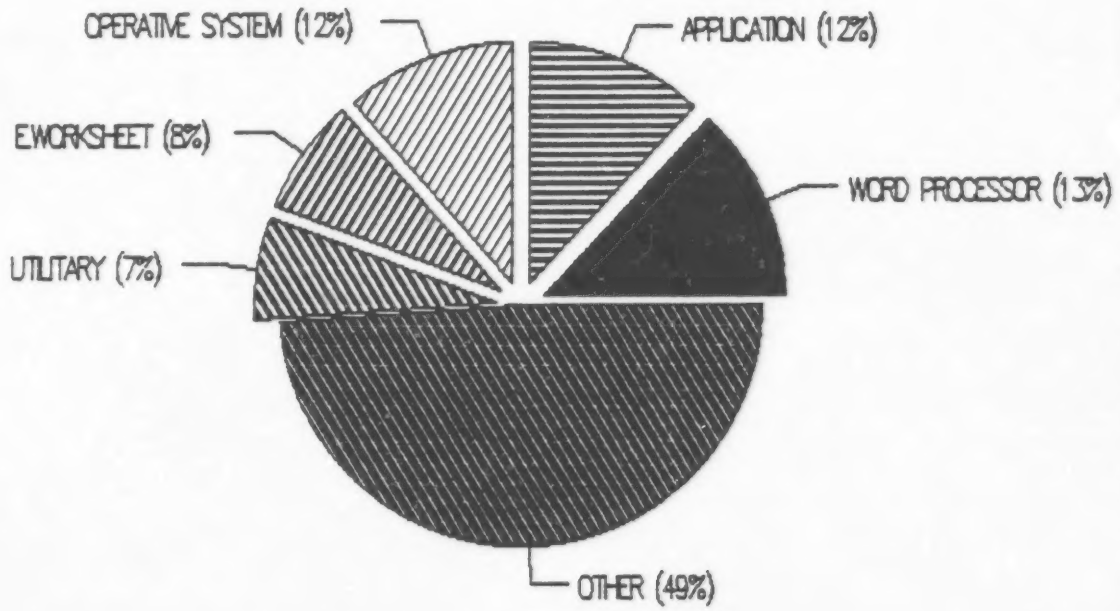
In 1989 as in the previous years the most imported softwares were twelve. Here are the main five followed by Data Base, Grafics, Integrators, Net Administrator, Design and Publish Design respectively.

1989 Principal Brands Imported

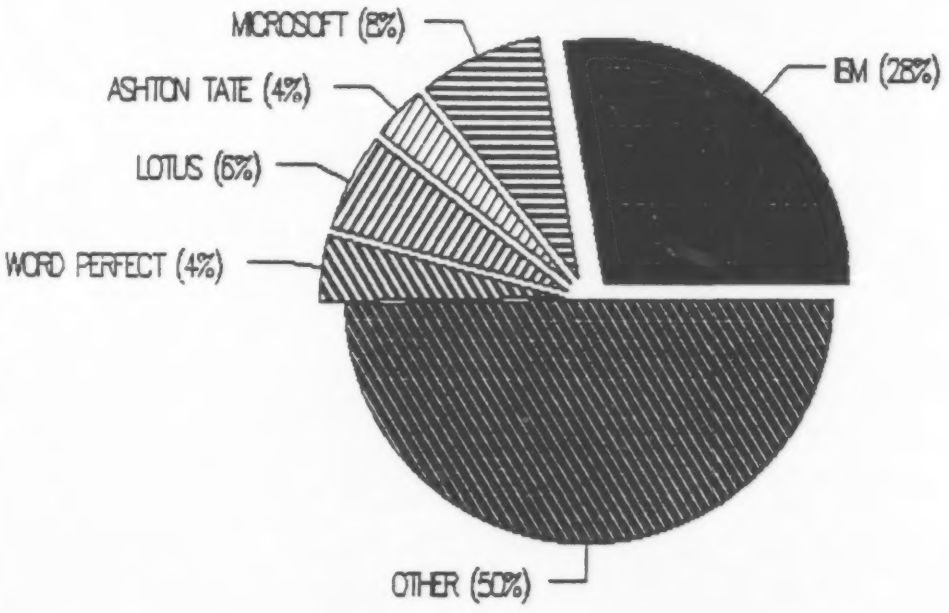
PRINCIPAL BRANDS	UNITS	%	US$ (Thousands)	%
IBM	14818	28 %	4240	25 %
MICROSOFT	4331	8 %	444	3 %
LOTUS	3388	6 %	952	7 %
WORDPERFECT	2324	4 %	381	3 %
ASHTON TATE	1921	4 %	670	5 %
OTHER	26294	50 %	7003	51 %
	53076	100%	13690	100%

In addition to these brands it is important to consider the presence of other brands of software like: Unisys, Novell, NCR, Borland and Santa Cruz Operation that are an important part of the market as a whole.

1989 IMPORTS (UNITS)
KIND OF SOFTWARE



SOFTWARE 1989
PRINCIPAL BRANDS (UNITS)



1990

MONTH	UNITS	%	US$ (Thousands)	%
January	2963	4 %	720	6 %
February	8234	12 %	1048	9 %
March	3443	5 %	641	5 %
April	3912	6 %	1165	10 %
May	2514	4 %	1091	9 %
June	3912	6 %	724	6 %
July	10512	15 %	1023	9 %
August	7153	10 %	837	7 %
September	3847	6 %	573	5 %
October	9389	14 %	1578	14 %
November	6816	10 %	1240	11 %
December	5595	8 %	1023	9 %
	68290	100%	11663	100%

Analizing 1990, it can be observed that the total amount of dollars imported decreased in comparison with 1989. On the other hand the quantity of units increased by 29 %.

The main companies kept their market participation at similar levels than the previous year in total of units imported, but in the amount of dollars it was lower .

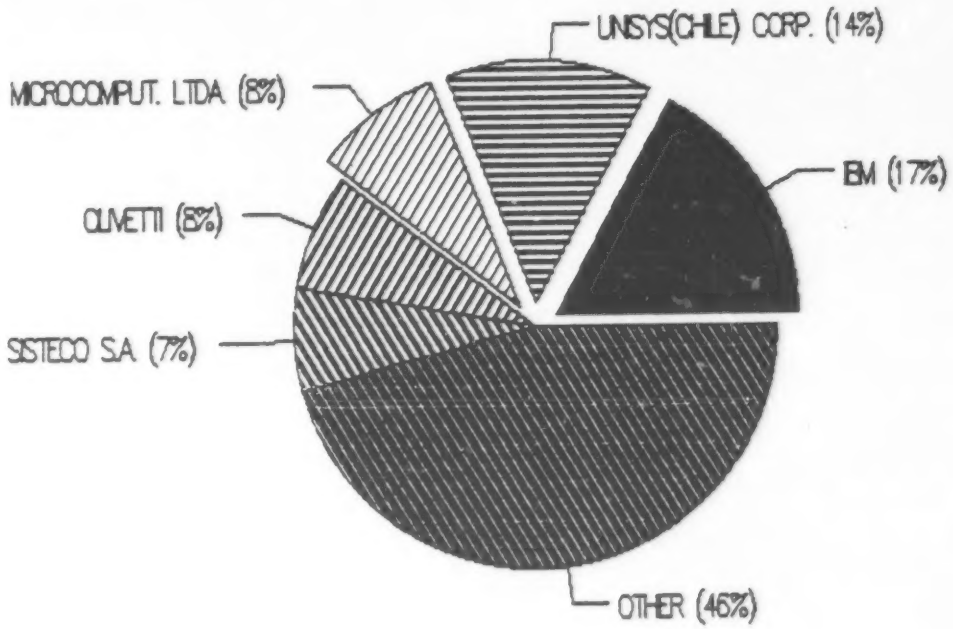
1990 Main Importers

COMPANY	UNITS	%	US$ (Thousands)	%
IBM	11670	17 %	2235	19 %
UNISYS	9576	14 %	478	4 %
MICROCOMPUTADORES LTD.	5768	8 %	1195	10 %
OLIVETTI	5425	8 %	588	5 %
SISTECO	4743	7 %	813	7 %
OTHERS	31108	46 %	6354	55 %
	68290	100%	11663	100%

For 1990, some changes happened between the main importers, for instance this year companies like OLIVETTI and UNISYS appeared with a marked force increasing their participation more than the others in the software market. IBM is leading the market again, but with a lower participation than the previous year, beginning a tendency to decrease its percentage of the total imports.

Another interesting point is that the direct importers have began to increase their operations, especially the final users like big companies and corporations that operate mainly in the Mining, Forestry, Fisheries, and Finance sectors.

SOFTWARE (1990)
MAIN IMPORTERS (UNITS)



1990 Principal Kind of Software Imported

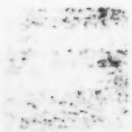
KIND OF SOFTWARE	UNITS	%	US$ (Thousands)	%
APPLICATION	11668	17 %	3881	7 %
WORD PROCESSOR	11119	16 %	815	7 %
OPERATING SYSTEM	7413	11 %	1778	15 %
ELECTRONIC WORKSHEET	7016	10 %	1240	11 %
DATA BASE	3024	4 %	659	6 %
OTHER	28050	42 %	290	28 %
	68290	100%	1163	100%

The main reason for the increase in the total of units imported and the dollar amount decrease, is based on the massive demand of software like Word processor, Electronic Worksheet and Applications; in the case of the Operating Systems, it seems to have a high correlation with the growth of the hardware imports for the same period.

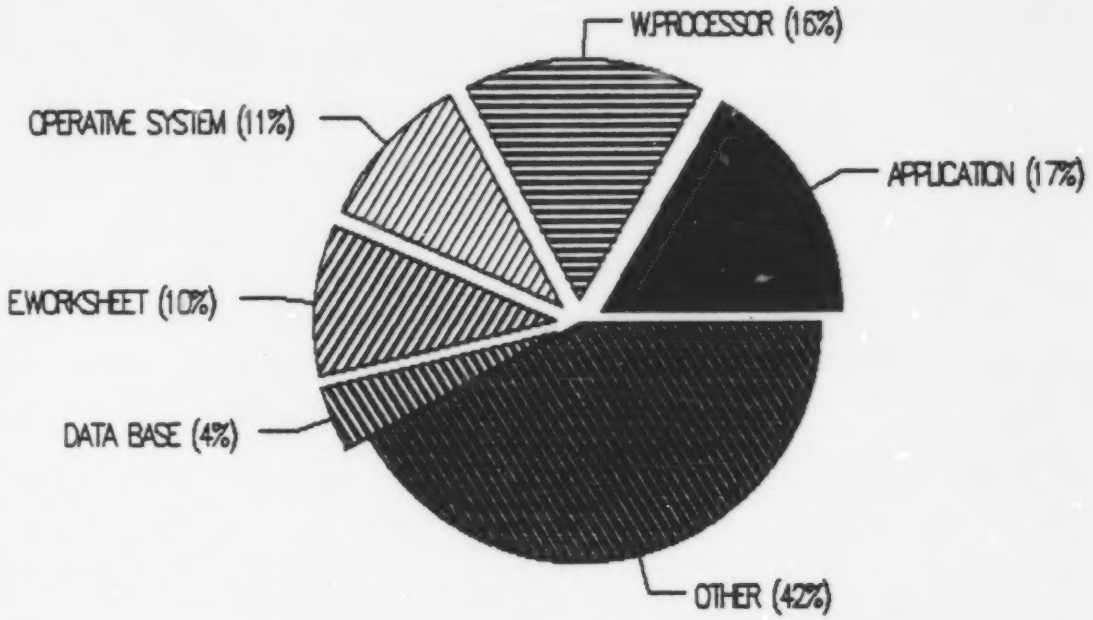
1990 Principal Brands Imported

PRINCIPAL BRANDS	UNITS	%	US$ (Thousands)	%
IBM	12457	18 %	2379	20 %
UNISYS	9704	14 %	569	5 %
MICROSOFT	8139	12 %	661	6 %
WORDPERFECT	6172	9 %	542	5 %
LOTUS	5060	7 %	1162	10 %
OTHER	26758	40 %	6350	54 %
	68290	100%	1163	100%

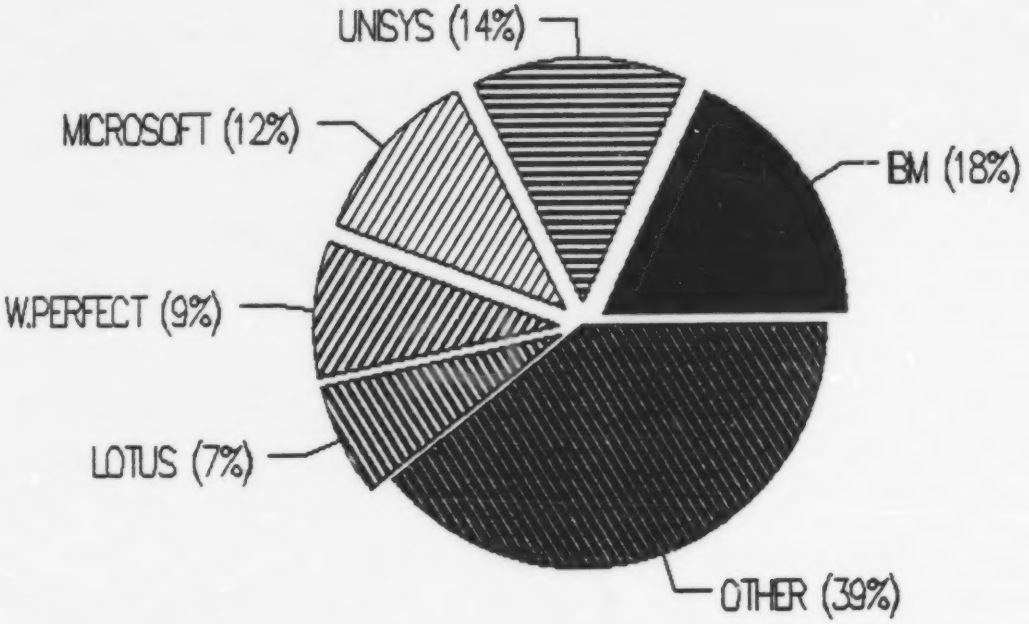
During this Season the brands with a major presence in the market didn't change too much, the most important variation is the case of Unisys with the highest increase compared with 1989, and other brands the same as Microsoft, Lotus, and WordPerfect.



1990 IMPORTS (UNITS)
KIND OF SOFTWARE



SOFTWARE IMPORTS 1990
PRINCIPAL BRANDS (UNITS)



To sum up the main brands, as a whole they concentrate a 60% of the total imported in the year.

1991

MONTH	UNITS	%	US$ (Thousands)	%
January	14152	14 %	721	9 %
February	10523	10 %	566	7 %
March	7462	7 %	794	9 %
April	8504	8 %	880	11 %
May	10263	10 %	1052	13 %
June	21995	22 %	1026	13 %
July	3888	4 %	408	5 %
August	5832	6 %	613	8 %
September	3645	4 %	510	6 %
October	6561	6 %	561	7 %
November	4374	4 %	460	6 %
December	4860	5 %	512	6 %
	102059	100%	8103	100%

Until June of this year the information is real, after that they are projections based on an average of the annual increasing rate in the last three years.

(*) Projected Information

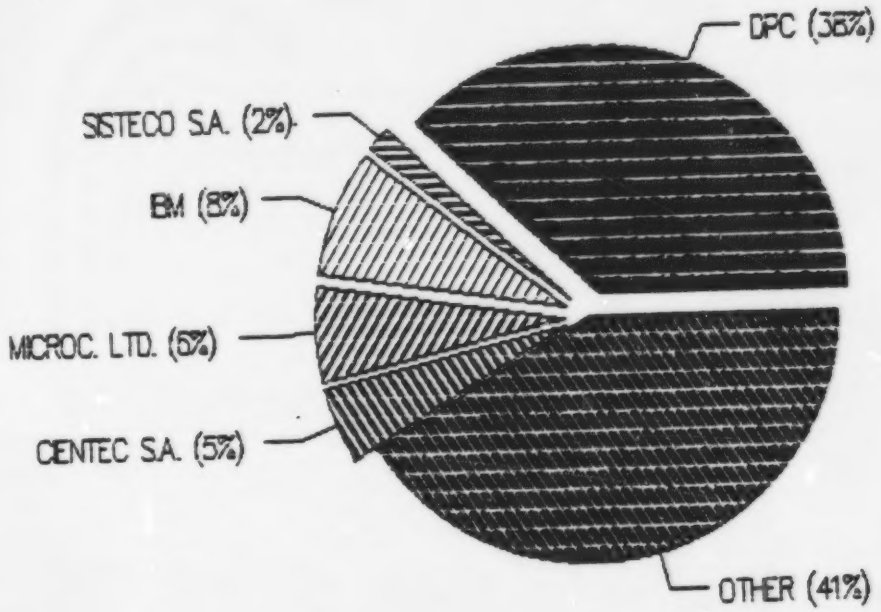
1991 Main Importers

COMPANY	UNITS	%	US$ (Thousands)	%
IBM	6010	17 %	1265	19 %
MICROCOMPUTADORES LTD.	4421	8 %	545	10 %
CIENTEC S.A.	3630	14 %	459	4 %
D.P.C.	27409	8 %	308	10 %
SISTECI	1351	8 %	235	5 %
OTHER	1351	7 %	2250	7 %
	72979	100%	5062	100%

1991 presents the same tendency as the previous years, increasing strongly in units and decreasing slowly in dollars.

Like the previous year the direct importers continued with their operations, in the same areas of the market, however some new companies appeared this season like D.P.C. with a big amount of units imported leading the market in this sense during the first six months, and CIENTEC S.A. that began to consolidate its position climbing up to the third place in the ranking. Other companies with importance in the market are COMSOFT S.A. and A.S.C. (Avanzados Sistemas de Conocimiento S.A.).

TOTAL SOFTWARE IMPORT (JAN – JUN 1991)
MAIN IMPORTERS (UNITS)



1991 Principal Kind of Software Imported

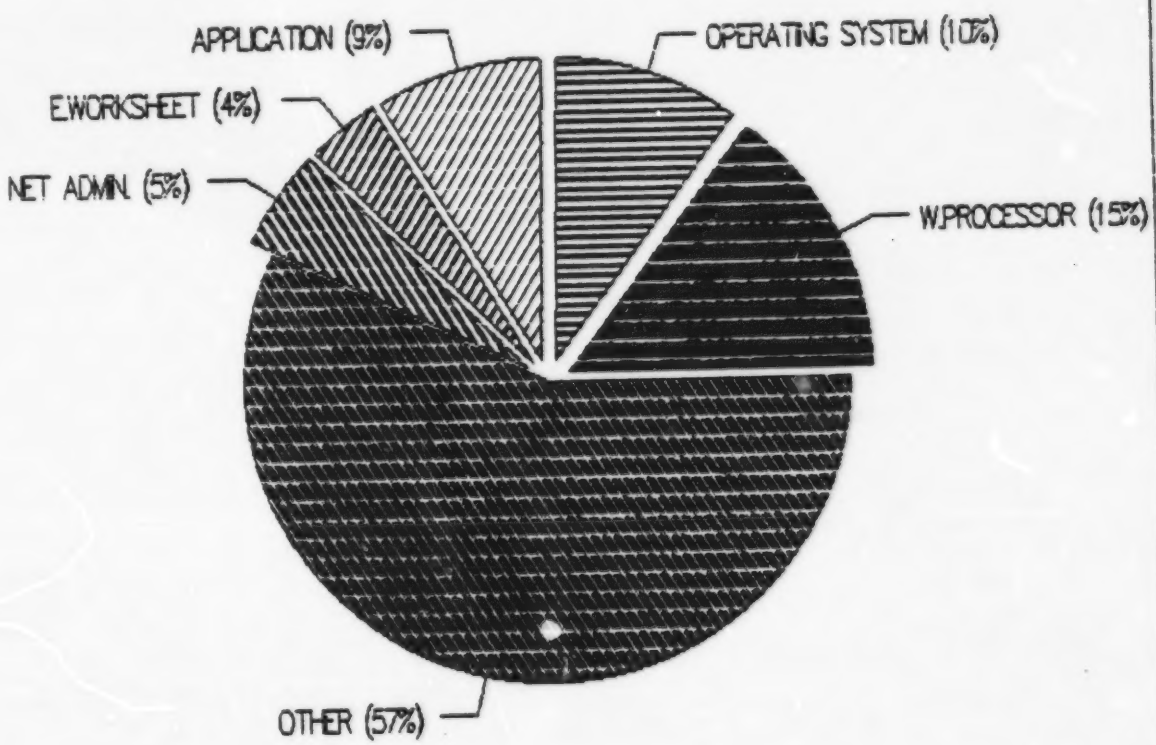
KIND OF SOFTWARE	UNITS	%	US$ (Thousands)	%
WORD PROCESSORS	10704	15 %	376	7 %
OPERATING SYSTEM	7363	10 %	823	16 %
APLICATION	6468	9 %	1286	25 %
NET ADMINISTRATION	3784	5 %	480	9 %
ELECTRONIC WORKSHEET	2856	4 %	291	6 %
OTHER	41804	57 %	1806	37 %
	72979	100%	5062	100%

Compared with June of last year, all the different kinds of software have increased in a considerable amount their import volume, although the total of dollars imported has in some cases decreased by 50% less than last year as in the case of Application and Electronic Worksheet. On the other hand some like Net Administration have increased to duplicate this 1990 imports.

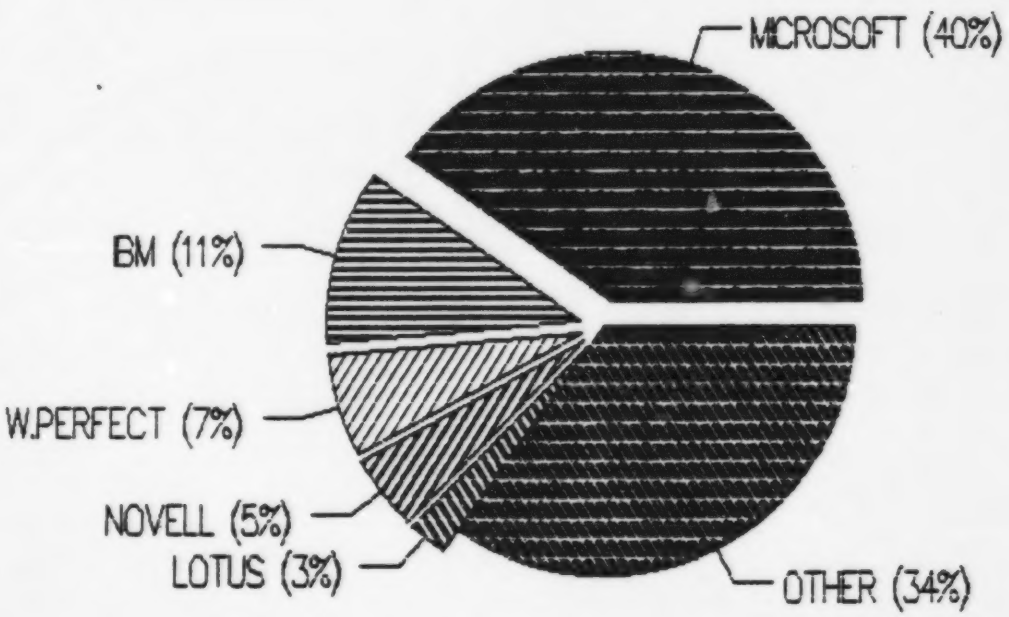
1991 Principal Brands Imported

PRINCIPAL BRANDS	UNITS	%	US$ (Thousands)	%
IBM	8036	11 %	1277	25 %
NOVELL	3308	5 %	447	9 %
MICROSOFT	28955	40 %	384	8 %
WORDPERFECT	4895	7 %	278	5 %
LOTUS	1926	3 %	268	5 %
OTHER	25859	34 %	2408	48 %
	72979	100%	5062	100%

SOFTWARE IMPORTS (JAN – JUNE 1991)
KIND OF SOFTWARE (UNITS)



SOFTWARE IMPORTS (JAN – JUNE 1991)
PRINCIPAL BRANDS (UNITS)



Between the principal brands in the market there are no significant variations, except in the case of NOVELL, thanks to an agressive introduction with a considerable amount of imports. In the case of MICROSOFT, this brand is leading the ranking of units imported displacing IBM to the second place.

CONCLUSION

Considering the information on software imports from 1988 to June 1991, it is possible to specify:

- That an increasing demand of software exists in the Chilean market.

- That even though the information considers only part of the reality, there are sufficient indicators to determine who are the principal importers, identifyin the main brands and the most important kinds of software provided by foreign suppliers.

- That the countries of origin for these products are led by United States and Mexico in first place and followed by Japan and Canada.

- That today the growing Chilean domestic industry is competing strongly with other countries, especially in Specific Solutions that involve a high cost. This is having a repercussion on the total amount of dollars imported, which is decreasing every year.

PROJECTIONS:

- The projections for the next two seasons show an increasing rate of 36 % for 1992, and a 21 % for 1993, in the total amount of units to be imported.

4.2. Software Exports

In the last few years Chile has structured its software export efforts through the creation of professional associations such as the Committee of Software Exporting Companies, an entity which groups not only the regular software companies, but also other firms which have developed internally some type of computer solution which can be marketed abroad.

The type of software developed is mostly of the specialized applications type, and not the standard packaged mass use application. That is, top technology tools are used to design applications. However, there are some exceptions, like the Ars Innovandi Company which has designed a text processor, and Synapsis, with its XNear data base software, and other companies. The difficulty in providing remote support has turned out to be an important barrier in the export of closed architecture software.

Total exports in 1990 fluctuated between 2 and 3 million dollars, yet sales of chilean computer solutions abroad grew by 50% between 1989 and 1990.

The exact export volume is difficult to determine, since exporters such a ENAEX, an Army-related explosives manufacturer, do not report their results. Also, the present duty system which imposes double tariffs on programming hours (offshore programming) (35%) considering them "consulting services", as compared to packaged software which pays a standard 11%, is a discouraging factor for software exports in general, and for disclosure of relevant information in particular. For instance, there is some mention in the industry of certain software exports which have been presented as book exports to avoid tariffs and paperwork.

Exports represent 0.06 per cent of world software exports, which in 1988 were over 50 billion dollars worldwide.

Exports include software as such, as well as programming hours, exported as " Offshore Programming", and the sale of consulting services associated to chilean software.

The following table describes the export sales of the seven principal exporting companies in 1990.

TABLE No.

CHILEAN SOFTWARE EXPORTERS (1990)

COMPANY NAME	SALES IN DOLLARS
Sonda	609.000
Synapsis	600.000
Sistemas Integrales	300.000
Emergency 24	250.000
Binaria	220.000
Softland	40.000
Autys	*
TOTAL	2.019.000

* Autys did not inform its results.

4.2.1 Type of Software Exported:

(a) Sonda:

It has exported five different software packages, and has marketed them through its alliance to Digital Equipment, the number two computer company worldwide. Its bank automatization software, the FTS (Financial Transference System) has sold successfully abroad.

(b) Synapsis:

It is one of the principal holdings in energy and sistems. It has exported projects in software consulting to public utilities, health and retirement funding systems. Synapsis's star product, "Synergia", for the automatization of accounting and administrative activities, has been already sold to 15 Colombian electric power companies, involving a US$500.000 dollars sale and motivating Synapsis to open up a branch office in Bogotá, Colombia, to explore the latin american market. Synapsis also does Offshore Programming. Its efforts to sell closed packages has been less rewarding. The firm has designed "XNear", a software wich provides on-line access to large data bases from minicomputers, and allows information to be rescued from mainframes. This package has been sold to seven United States counties and sales total around US$50.000 dollars.

(c) Softland:

It has sold administrative applications to Bolivia, Argentina, France and Germany.

(d) Sistemas Integrales:

Its software for processing of complex surveys and census data, "Ariel Plus" has been sold to more than 40 countries throughout the world, with sales of over US$300.000 dollars in 1990. Organizations such as the World Bank, the Interamerican Development Bank and FAO have purchased this package.

(e) Binaria:

It designed and programmed "Meta Star", a data repository which allows the creation of a common interface for the complete company software. Binaria generateed sales of around US$250.000 with this software. It is distributed in the United States by Cincom, one of the four big world data base producers.

(f) Emergency 24:

It designed "Chicago Connection", a system which allows the monitoring of alarm signals by computer. It is marketed in Chicago, U.S.A., by Emergency 24 Inc. This software provides a yearly income flow of about US$250.000 to the chilean company.

(g) Autys:

It does traditional offshore programming. It exports software programmed in Chile and designed in France, where it is sold by a branch office of Price Waterhouse Consultants. Its products include control programs for retirement funds, interpersonal services and administration of public organizations.

Some non-traditional exporters include:

- Banco Santiago, a local bank, which has presented its Banco Sud Americano - Banco Amigo, self-service bank software, in international software fairs abroad. (CEVIT, COMDEX).
- ENAEX, national explosives company.

4.2.2. Offshore Programming

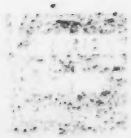
This involves the sale abroad of programming man-hours, which in Chile cost about 40% less than in developed countries.

This option implies not only the translation of designs prepared abroad, but mainly the design of the software itself, as well as the programming and later revision.

Such is the case of Binaria, and Emergency 24.

In summary:

- Exporting firms are software companies as well as business firms which have developed specialized software to satisfy internal needs, and then proceed to market their effort.
- Problems faced by chilean exporters include the difficulty to provide remote support and the double taxation-duty system, which discourages transparency of export information.



Chapter 5. CONCLUSIONS

5.1. Software Industry Trends.

5.1.1. General Industry Tendencies:

- Hardware is diminishing its importance relative to software and service.

- Hardware is becoming smaller and more powerful due to miniaturization. An example of this is the recent introduction of "palmtop computers". Hewlett Packard offers a palmtop PC for about US$150.000 with 512 RAM.

- The intense competition in the market has lowered the prices of Hardware. For instance, at present IBM advertises the sale of its PS/2 line with a 35% discount on list prices through all its distributors.

- The software industry has experienced an explosive growth worldwide, increasing at a much faster rate than hardware. For instance, the computer industry leader, IBM, grew in software sales between 1985 and 1988 at 7,5 times the growth rate of total sales. International forecasts indicate that in 1992, 50% of all computer industry sales will come from software and related services.

- There is a tendency toward do-it-yourself software: The advances in programming languages will make it possible to customize software. The new object-oriented technology for instance, reduces programs to discrete building blocks of preprogrammed code that PC owners can string together.

5.1.2. Trends in Chile

- In Chile, as in the rest of the world, hardware vendors are closely tied to the software production and sales. For instance, IBM makes software directly and through third parties and it owns SISTECO. Unysis owns Magenta and Synapsis.

- It is customary that companies sell not only hardware and software but also consulting. The trend is that large suppliers have evolved from offering computers to offering solutions to informatic needs at present.

- The chilean computer market absorbs changes in the international computer industry almost instantly. A case in view is the situation of WANG abroad. Its problems were echoed in the switch of SISTECO from WANG to IBM, which now owns the company, and the creation of a WANG branch office in Chile.

- Software demand grows faster than the demand for Hardware. Hardware demand increases in Chile at an estimated average rate of 10 % a year, with the sector of laptops and notebook increasing faster than the rest. The rate of software growth varies according to the equipment segment.Demand for software increases at the fastest rate for PC's and Local Area Networks and at a slower pace for Mainframes.

- Overall the software demand grows at an average rate of 25 % a year.

5.1.3. New Technology introduced.

- Interactive devices are being introduced at the end consumer level. This will have a significant impact on software requirements. One of this devices is the french Minitel terminals which are being introduced in Chile by DICOM, a credit rating information supplier, who is installing them in most of its client firms for self-service inquiries into their data base.

  Also, Banco Santiago has a project to incorporate Minitels into their automized self-service banking locations.

- There is a strong tendency toward open architectures and the incorporation of UNIX equipment.

- In terms of data base software there is a marked preference for Oracle and Informix.

5.2. Business Opportunities

Business opportunities for Canadian companies in this industry are related to the following aspects:

5.2.1. Characteristics of the chilean software industry
5.2.2. Identification of software demand
5.2.3. Entry Strategy

5.2.1. Characteristics of the Chilean software industry.

The software sector in Chile may be considered a strategic industry in the sense that it has ties with other industries, for example, through programming of custom software or database management; it holds attractive market opportunities; it is technology intensive and it offers high value-added services.

Chile has an attractive environment for this industry, because it has an entrepreneurial problem-solving culture, with low cost rents and labor, with management commitment and understanding.

Also, there is intellectual property protection, with great progress being made in educating end users about the need to guarantee property rights by purchasing and registering software.

The country provides a cheap source for off-shore software development and foreign firms look towards Chile as a base in Latin America.

5.2.2. Identification of Software Demand:

In chapter 2, item 2.2 of this report, we have identified the specific software demand per sector. The following section summarizes the trends in software demand.

The demand for imported software focuses on the following variables:

- Specific markets and applications: oil, copper mining, specific industrial processes.
- Software for mainframes which can only be developed by large software houses.
- Demonstrated experience in use and customization of software elsewhere. The cost of a unique software product is not comparable to the purchase of a product that has already been tested and tried abroad. Experience is a key issue in marketing of imported software.

Sectors for Software Development:

- Banking: Money tables
  Electronic stock exchange software.

- Production: Software for PC's which control production plants.

- Communications: Image processing by computer.
  General traffic and vehicle traffic software.

- Information Technology: Software tools for software development.

- G.I.S.: Geographical Information Systems.

Other sectors are detailed in Chapter 2.

5.2.3. Entry Strategy

A succesful import effort requires:

- Packaging

- Marketing. This implies:
  - . Adequate technical support.
  - . Training for Users.
  - . Adapting the software to the local idiosincracy and regulations.
  - . Operation Backup and support. This is a key factor in Mainframe equipment.
  - . Automatic Upgrade for present clients of the latest software release.

- Documentation: User manuals, Backup documents and information.

5.3. Conclusions

1. Specialized Software is today more important than the hardware it runs on. The computers may be chosen to accomodate the specific software according to the speed required of the computer, the capability to manage a large quantity of data, cost and other aspects.

   For instance, in the case of G.I.S. (Geographical Information Systems), a certain GIS software such as ARC-INFO of ESRI, may cost about U.S.$60.000 dollars to be used witha work station, and the work station itself may cost about US$35.000 dollars.

   It is more relevant in this situation therefore, to choose a workstation that will adequately cover the requirements of the software.

2. For application packages, the supplier support is a key variable used by the buyer when choosing a certain software. The technical post-sale support required in installation, usage problems, user training and so forth, is equally or more relevant than the price of the SW itself.

In the banking system, where downtime is extremely costly, the choice of a SW with a local distributor that will guarantee technical support is fundamental to the purchase decision.

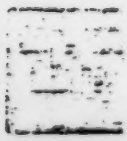
Conclusion: Provide adequate technical support through a local distributor. The lack of remote support is a strong barrier to imported software.

ADDITIONAL EXHIBIT No. 1.

MAIN COMPANIES PARTICIPATING IN SOFTEL 91 AND THEIR HARDWARE

Company	Brands	Kind of Hardware
3 M	3M	Liquid cristall scopes, Disquettes, cartridges, etc.
Apple	Macintosh	Computers , Graphic area, scanner, fotocomposer.
Altec	Altec	PC ; autonom. Work station Landstation.
Dicec	Bernoulli	Removable Disks.
Data General	Data General	Computer AVIION AV 5000.
Epson	Epson	Computers, point printers, scanner.
IBM	IBM	Computers PS-2, AS-400, systems AS/ENTRY, SI/ENTRY Laser printer , Notebook, Work stations.
IMEX Estado	Everex, Chicony	Computers, Data transmmition modems, servers, Laptops.
INGENAC	Teledata, Pinnacle tektronix, Calcomp, Liberty, Zeta Brunning	Printers, optic Disks, Digital. table, plotter. terminals.
Intervideo	Tandon	Computers, PC , Systems, Laptop.
Kodak	Kodak	Laptop printer for PC and Macintosh, Laptop.
Lógica	Mai Basic Four	Computer, printer.
Magenta	Twinhead, Zenith	Computer, server, Laptops.
Metrodata	Mitac	Computers.
Olivetti	OLivetti	Laptop and Notebook
Olympia	Olystar, Olympia	Computers and Printers
PBC	CMS Enhacements	Processors and Dispositives.
Phillips	Phillips	Notebook.
Sisteco	Clone, Citizen	Computers, printers.
Sist. Digitales	Samsung, Texas, AT&T,	Computers, printers. Catridge units, Monitors, Notebook.

SONDA	Digital Equip.Corp.	Computers, Systems.
Synapsis	Longshine Sun Microsystems	Computer, Notebook, Work Station.
Syscal	Panasonic	Laptop.
Teknos	Okidata	Point and Laser printers.
Teknodisc	Abaton	Mouse, and other prodcts.



MAIN COMPANIES PARTICIPATING IN SOFTEL 91 AND THEIR SOFTWARE

ADMINSTRATIVE AND MANNAGING SOLUTIONS

IBM:
Tasco: Administrative information system RS/6000.

KANO: PLATINUM, commercial managing system.
MAP, Human resources system.
Finance general solution FINIPAC:
Managing executive system, COMMANDER.
Inventory and purchasing system, IMC
Commercial managing system, E.

NDE : Personal system PS/2.
Managing automatization software, AUGE.

Computación: Multiusers solutions AIX/PS/2.
Productivity software and OS/2.
Documents Data Base solution, ICARO .

CONTAC : Process control solution.

AEG
OLYMPIA: Integrated Novell Network system,
for managing, school adminstration, etc.

3) ALTEC : Compu flex system.

Synapsis: Video Integrator intelligent system
for Estate Agents.

Success : Oyster, antivirus software .
Borland applications.

Informat: Administrative solution systems.

7) Terabyte: INTETEL 1024, control phone using program.

SONDA: SONDA managing system, access control system,
GESAM Administrative system.

Softland: Administratives systems; SIMON, Finantial Accounting
Integrated Systems, Publishing software.

Excelsys
Engeneering: Producting Managing system, Publishing systems
for touch screen and conventional.

Marketing y
Tecnología: "EL AYUDANTE", software thatenable users who don't know DOS to operate programs.

)Synapsis : Integral managment solutions for the Health area, it covers also other sectors of the economy, like Energy and Transport.

)Metasoft: FITWIT 2.0, modeling application system for planning and project evaluation, finance and statistics simulation.

)Optimisa S.AA.: Complete administrative system based on Oracle.

15)Wintex : (Kodak) Optimization managing solutions for production, services and commercial areas, with RADIX 1.0, Skanf 1.6, CYC 1.0 and Fast Flow 1.0 .

PBC : Norton accounting system .

1)Sistemas Digitales : Managing solutions.

)Computerage : Home and office solutions related to access ,doors, alarms, light operation etc.

GRAPHIC SOLUTIONS

1) Microcomputadores : DOS Freelance graphics , AutoCAD for technical engeneering design.

2) JMO: Edition 3.0 VersaCAD for Macintosh and DOS oriented to mechanical engeneering design solutions.

3) INGENAC : ERDAS, ARC/INFO and CADDS graphic systems.

Wintex : (Kodak) Atex Kodak programs for newspapers and publishers solution with Kodak Atex Pagemake Up and Atex Writer.

SONDA : SOLGRAF , image integrative software, oriented to graphic elements and alphanumeric format data with SOL/Publicidad and SOL/Presentaciones.

Apple : Design, Photo composition, diagramming and color separating systems.

Scandata : POLAROID CI-3 system, for compatible PC that enables 35 mm transparency printing.

WordPerfect Chile: DrawPerfect, Design worksheet.

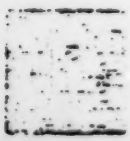


IMAGE PROCESSOR SOLUTIONS

	INCOM :	ARC/INFO , Geographic information system .
2)	SONDA :	SOLGRAF, integrative image system, SOL/Geográfico, SOL/Forestal, SOL/Geología, SOL/Mapas.
3)	Synapsis:	Applications.
4.	INEX :	MAPINFO, Geographic data base software oriented to data digitalization with capacity to represent 54 different information levels.
5)	Microgeo :	AutoCad, AutoManager, CADPipe and QuickSurf, image processor softwares.
6)	INGENAC :	ERDAS, satellite digital image system, enables to run hydrologic applications (Military, agriculture, forestry and urban areas.)
7)	GTI/RDB :	Graphic data processing system, integrated to a Relational Data Base.
8)	ST Computación:	ICARO, Italian system that permits to manage images and documents.
9)	TASCO :	GENASYS, Geographic data system construction tool.
10)	IMEX Estado :	OCR, image processor software.

BANKING AND FINANCE SOLUTIONS.

) Optimisa : DDMTSS, software developed for bank lineal trasactions currently beeing exported.

) SONDA : STF finance transaction systems , SBS automation banking system, information banking systems.

) BANCARD : Store Manager Software, computarized cashier that offer powerful tools for the internal control of the company.

) Metasoft FITWIT 2.0 for UNIX/XENIX that permits to do finance and statistics simulations and functions.

) Mekano : Integral finance solution FINIPAC.

) VTR : Stock Exchange transaction system , MCE.

NETWORK AND DATA BASE IMPLEMENTATION AND SOLUTIONS.

1) SONDA : NAS, Network solution for VAX, permiting connectivity between PCs, Mac and Work stations.

) ST Comp.: ICARO, documental data base applied in the Italian Congress.

Synapsis : Integral Data Processing and comunication solutions, Network system that permits difernt Operating Systems work together with different architectures, protocols and communication equipments, SUN PC-NFS file system for PC.

4) AEG Olympia : Novell Network system that integrates different areas solutions.

5) Intervideo: ALLOY Network to connect PCs and Mac.

Microcomp.: Ingrs/Windows4GL, 4th generation language to support Relational Data Base.

ORACLE : OPPLUSIS , Integrated adminstrative managing system for Oracle.

Terabyte : UNIPLEX, Integrated Software.

9) IBM : Intermediary Systems for AS/400, RS/6000 systems.

1) NEC : Offices advanced Network solutions.